Self-Reported Behavior and Attitudes of Enrollees in Capitated and Fee-for-Service Dental Benefit Plans

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On page viii under table number 3.12a, the words "Very Good" in the second line should be "Excellent." Also, in the second line, the page number should be 41.

On page viii under table number 3.12b, the word "Excellent" in the second line should be "Very Good." Also, in the second line, the page number should be 42.

On page 41 at the top of the page, the words "Very Good" in the title of Table 3.12a should be "Excellent."

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PREFACE

This report presents results from the RAND study of enrollees in capitated and fee-for-service dental benefit plans. The objectives was to investigate the differences in the behavior and attitudes of the enrollees within the two types of plans.

Eight "Fortune 500" companies were selected for the study with dental benefit plans. California, Michigan, New Jersey, and North Carolina were chosen as sites for the study. These four states represent varying levels for the development of managed care plans in dentistry and therefore, four distinct dental markets. The premium paid by the enrollees and their out-of-pocket costs also varied.

These variations allowed us to compare companies, dental markets, plan types, and economic costs to the enrollees. The enrollee's behavior and attitudes were measured by their use of dental care, their experience with the dental plan, satisfaction with their dental plan, satisfaction with the dentist, and their perceived oral health status.

This report presents the results of our analysis. The findings should be of interest to both those enrolled in dental plans and those involved in establishing such plans for corporations. They will also be of interest to those reimbursed by the plans for professional services, the dentists.

The work was conducted by a joint team from RAND and from the UCLA School of Dentistry, Division of Public Health and Community Dentistry.

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Executive Summary

The specific purpose of the study was to examine the impact of differences in type of dental plan, premiums paid to dental plans, patient out-of-pocket costs, and the dental insurance market on patient behavior. In this study, patient behavior was measured by use of dental care, experience with dental plan, satisfaction with plan, satisfaction with dentist, and perceived oral health status.

Four dental markets were selected based on the level of Health Maintenance Organization (HMO) managed care penetration. These markets were California (19.8 percent of the population is in a dental HMO), New Jersey (7.3 percent), Michigan (4.6 percent), and North Carolina (0.07 percent). Eight "Fortune 500" companies whose operations included at least one of the four markets agreed to participate. Participants were randomly selected from eligibility lists, and a telephone interview that collected data on their experience with their plan during 1997 was conducted. The sample consisted of 2,340 respondents of whom 42.3 percent were enrolled in capitation plans (CAP) and 57.7 percent were enrolled in fee-for-service plans (FFS). The plan premiums ranged from $22.40 to $61.75 per month.

Data analysis included both bivariate and multivariate analyses. For both sets of analyses, Bonferroni adjustments were used. Forty-six bivariate comparisons were made in this report. Hence, the significance level for bivariate analysis was set at .001 (.05/46). In multivariate analysis, on the other hand, where we examined the effects of 19 variables on five dependent variables, using Bonferroni adjustment the significance level was set a $p<.0026$ (.05/19).

The major findings from the multivariate analyses are outlined below.

Use:

- Women were more likely to use their plan than men.
- Nonwhites are less likely to use than whites.
- Those with family incomes less than $50,000 were less likely to use their plan than those whose income was over $100,000.

Oral health:

- Those enrolled in CAP plans were less likely to rate their oral health excellent versus fair/poor relative to those enrolled in FFS plans.
- The other three income categories (lower than $100,000) were less likely than those earning over $100,000 to report excellent oral health versus poor/fair oral health.
- Nonwhites were less likely to rate their oral health as very good or good oral health than fair/poor oral health.

- Plan users with no out-of-pocket cost were much more likely to report excellent oral health when compared to nonusers. Similarly, plan enrollees with $1–$50 out-of-pocket cost were more likely to report excellent oral health than nonusers.

Satisfaction with plan:

- Those enrolled in CAP plans were less likely to be satisfied with their dental plan than those in FFS plans.
- Respondents with unmet needs were less likely to be satisfied with the plan.

Satisfaction with dentist:

- Those in CAP plans were less likely to be satisfied with the dentist than dissatisfied when compared to FFS enrollees.
- Those reporting an unmet need were less satisfied with the dentist.

Overall rating of plan:

- Those enrolled in CAP plans were less likely to give an excellent rating versus average/poor/very poor rating when compared to FFS enrollees.
- Plan enrollees with unmet dental need were less likely to give an excellent rating than an average/poor/very poor rating.
- Older plan enrollees were more likely to give an excellent rating than an average/poor/very poor rating.
- Compared to nonusers, users with no out-of-pocket cost were more likely to give an excellent overall rating of the plan. Similarly, plan enrollees with $1–$50 out-of-pocket were more likely to give an excellent rating.

ACKNOWLEDGEMENTS

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The opinions expressed are those of the authors.

Chapter One

BACKGROUND

Financing of dental treatment is subject to the same forces that affect other health services. Primary among these is the drive toward cost containment. One major approach to controlling cost in health care has been through capitation forms of insurance, which shift the financial risk for providing services from the insurance company to dentists, physicians, and other providers.

While capitation plans do control costs, concern has been expressed regarding access and the quality of care. The relationship between the quality of care and capitation is not self-evident (1). From one point of view it would seem logical that capitation would result in the dentist denying treatment, or providing cheaper services, since this would increase the profitability to the dentist. From another point of view, however, the more preventive services dentists provide the more they might avoid later, and more costly, restorative services. Marcus (2) in discussing the issues surrounding quality of care notes that abuse of fee-for-service plans can lead to over-treatment, excessive use of expensive services and materials, with underuse of less expensive ones. In capitation schemes, abuse can result in lack of access to care, undertreatment, and reduced time with patients.

While there has been considerable discussion of the quality issue, there has been relatively little empirical investigation within dental care. Atchison and Schoen (3) found that neither fee-for-service nor capitation programs routinely provided good dental care. Within the capitation scheme, there was very low utilization with only 52.8 percent of the eligible population having at least one dental visit within a five-year period (range from 35.2 percent to 74.6 percent). The capitation plans tended to underdiagnose and underplan in that they took fewer radiographs, found less pathology, and planned more simple care. Over-treatment was reported in fee-for-service practices.

In a controlled trial in England and Scotland (4)(5)(6) comparing capitation and fee-for-service dental care for children, the results showed that those under capitation had fewer filled teeth, more decayed untreated teeth, had fewer x-rays taken, and were recalled less frequently. However, the capitated dentists provided more preventive care (advice on prevention, prescription of fluoride supplements, dietary advice, hygiene advice) than the fee-for-service group. The authors interpreted the findings to mean that the capitation scheme did not necessitate systematic neglect, only that the dentists left the caries to a later stage of development before intervening. The dentists involved in the capitation plan believed it had more administrative problems but gave greater clinical freedom. They perceived a tendency to

underprescribe whereas fee-for-service dentists perceived a tendency to overprescribe. The latter also perceived a stronger allegiance to their patients.

Preventive dentistry is an important aspect of quality. One assumption is that it should increase considerably in the capitated program. The results here conflict. As discussed above (1)(4), the study in Great Britain found preventive services were higher in the capitated plan. Beazoglou, Guay, and Heffley (7), however, found that patients in the fee-for-service plan received double the volume of preventive services as those in the capitated plan. They also found that the capitated plans consistently substituted less expensive procedures for more expensive ones.

A second major issue in capitation plans is establishing the balance between the patient costs and the dentist's reimbursement. The underlying logic of managed care programs, and the driving economic force behind their development, is that prepayment schemes provide different incentives for the provider than fee-for-service. In a prepaid scheme, the intent is to reduce the amount of unnecessary care provided under fee-for-service. Because the provider is reimbursed in the latter per service performed, there is an economic incentive to provide more services. The fixed payment made in capitation plans should remove this incentive. But the incentives in these types of plans present their own challenges to quality of care and equity for providers.

To be attractive to consumers, the enrollment cost and copayments must be competitive and the services covered must be relevant to the health needs of the patient. Reimbursement to the dentist must be equitable. Where reimbursement is too low, the dentist might not participate, under service the patients, or seek to switch patients to noncovered services. Marcus et al. (8) have shown that the provider in many capitation plans can only obtain equity by lowering the number of patient visits per year or the percentage of enrollees using the plan.

The challenge to providers in the plans therefore is to assess accurately the need and demand of the enrolled population and the feasibility of providing the service benefit at the compensation rate. It requires considerable actuarial skill to assess whether a particular plan would be of economic benefit to the dentist (9). Further, choosing the method by which the value of the services, and therefore the payment to the dentist, is calculated can be difficult to determine. Schoen and Atchison (10) have shown that using three different methods of calculation (usual, customary fees and reasonable fees [UCR]; relative value unit [RVU]; and relative time cost unit [RTCU]), although similar in value for the first year, lead to different estimates of the total value of services provided in the second and third years. The study looked at both capitated and fee-for-service programs. Further, they were able to show that the mix of services has a considerable impact on the calculations using the three approaches.

A key issue for dentistry, therefore, is the impact the various provider reimbursement methods have on the services provided by the dentist and the utilization of services by the patients. The broad policy and public health issue is the impact these have on the oral health status of the patient. Since this will be determined by both the utilization of dental services by the patient and the services rendered by the dentist, it is useful to investigate the impact that capitated and fee-for-service plans have on the behavior and attitudes of both.[1]

The analysis presented in this report is limited to a comparison of fee-for-service and capitated dental benefit plans with respect to the behavior and attitudes of enrollees as reported by the enrollees. Given that the plan premiums and patient copayment are generally lower in capitated plans than those in fee-for-service, it may be reasonable to assume that dentist compensation is lower in capitated plans. However, the extent of the difference in compensation to the dentist in the two types of plans could not be measured in this study because insurance companies hold as proprietary data capitation rates paid to dentists and utilization rates. Other data, such as the amount of "optional treatment" in capitation programs where procedures not covered by the plan, are provided at the dentist's usual fee are not known. Thus, the study deals with premiums as reported by the company and self-reported out-of-pocket expenditures as reported by the enrollees and not with dentist compensation.

The purpose of the study is to examine the impact on patient behavior of differences in type of dental plan, premiums paid to dental plans, patient out-of-pocket costs, total expenditure and the dental insurance market. Patient behavior is measured as use of dental care, experience with the plan, satisfaction with plan, satisfaction with dentist, and oral health status.

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[1] We distinguish between an enrollee in a plan and a patient. While all enrollee's are potential patients only those who actually use the dental services are in fact patients. In this study our basic sample was of enrollees.

Chapter Two

RESEARCH DESIGN

MARKET TYPOLOGY

Since economic markets for dental insurance in the United States are quite variable, the first step in selecting the sample of plans to study was to characterize markets for dental Health Maintenance Organizations (HMOs). We linked geographic data from the National Association of Dental Plans (NADP) Dental Benefits Industry Census, the InterStudy Competitive Edge HMO Census, and the Area Resource File (11). The analytic database created for this study included available data from 1990 to 1995 on the following: 1) the dental HMO market; 2) the medical HMO market; 3) dentist and physician supply; and 4) other market characteristics. The unit of analysis was the state level.

The data on the dental HMO market were from a survey of the dental insurance industry sponsored by NADP and conducted by InterStudy Publications. The 1996 NADP survey was conducted in fall 1996 and provides state enrollment data and provider network data from 144 dental insurance companies across the United States, including 112 dental HMOs. Each dental plan provided information to NADP regarding dental plan organization and state dental HMO enrollment. Although traditional Delta and Blue Cross dental plans involve contractual relationships with dental providers, the NADP survey defined these plans as indemnity insurers for the purpose of this survey. This was because the payment systems for Delta and Blue Cross more closely resemble indemnity reimbursement than discounted fee-for-service or capitation payments commonly used by dental HMOs and Preferred Provider Organizations (PPOs). The 20.7 million dental HMO enrollees directly identified by the NADP census were believed by NADP to represent virtually all of those enrolled in dental HMOs.

An index was developed for the degree of penetration of managed care into the dental market by examining the number of dental plans in a given state, the percentage of the population covered by the plans, and the rate of growth in the plans over the past five years. The national rate of dental HMO penetration grew from 6.8 to 7.6 percent from 1994 to 1995, however, penetration is considerably below the medical HMO penetration rate of 24.7 percent. The proportion of dentists participating in any managed care network is estimated to be 27.6 percent, with 17.6 percent in HMO-type networks. There were five states with dental HMO penetration rates exceeding ten percent. Four states, California, Maryland, Arizona, and Florida, had dental HMO penetration rates between 15 and 20 percent, and these may be classified as more mature markets for dental insurance.

This information allowed us to characterize all of the mainland states in terms of their managed care markets with a typology of high, medium, and low penetration markets. What the data show is that although the penetration of dental HMOs has been modest compared to medicine, the growth is predictable by the same factors and closely follows the pattern found in medicine (11).

From this work we identified four states that would ensure different levels of managed care penetration. The markets selected were California, New Jersey, Michigan, and North Carolina. California had the highest level of HMO penetration (19.8 percent), New Jersey had 7.3 percent, Michigan had 4.6 percent and North Carolina had the lowest (0.07 percent) (11).

PLAN TYPOLOGY

The second step was to identify companies willing to participate in the study and to classify the dental plans they offered. We contacted 109 "Fortune 500" companies whose operations appeared to include at least one of the four markets we had selected. From these, 10 were recruited to participate. The selection of the companies was determined by our need to meet the objectives of the study and by cost and practicality criteria. It was a purposive sample. One company withdrew from the study. The corporation had received numerous complaints about its plan but had renewed the plan contract. The company was concerned that the study might raise false expectations among their employees. A second corporation was dropped because it was located only in California and had no variation in its plans. It therefore added little to the sampling plan.

The dental benefit plans of these eight companies included indemnity service, preferred provider, and capitation plans. We elected to classify the plans based on method of payment to the dentist and who bore the financial risk. Thus, the plans are categorized as fee-for-service (FFS) or capitation (CAP).

Among the eight companies, there were 42 combinations of company, market, and plan type. Table 2.1 shows the type of variations encountered. Company #1, for example, had one CAP plan that was offered in all four markets. The dual-party premium ranged from $27.75 to $31.46 depending on the market. There were two different FFS plans, both of which were offered in Michigan. One of these two plans was offered in North Carolina and the other in California and New Jersey. Company #2 was located in only one market and had one FFS and one CAP plan. Company #5 had four CAP plans in just one market (Michigan), the premiums of which ranged from $34.55 to $48.60. Company #7 was in only one market and had two FFS plans with quite different premiums.

Table 2.1
Market, Plan Type and Dual-Party Premium[a] for Dental Plans in Eight Study Companies

Company #	Market	Plan Type	Dual-Party Premium
1	CA	CAP	29.00
	CA	FFS-2	61.23
	MI	CAP	27.75
	MI	FFS-1	35.98
	MI	FFS-2	61.12
	NJ	CAP	31.46
	NJ	FFS-2	60.83
	NC	CAP	29.06
	NC	FFS-1	36.09
2	CA	FFS	46.97
	CA	CAP	30.45
3	MI	CAP-1	22.40
	MI	CAP-2	24.10
	MI	FFS	25.60
4	CA	CAP-1	43.25
	CA	CAP-2	30.25
	CA	FFS	61.75
5	CA	CAP-5	26.36
	MI	FFS-1	44.74
	MI	FFS-2	49.22
	MI	CAP-1	38.01
	MI	CAP-2	41.06
	MI	CAP-3	48.60
	MI	CAP-4	34.55
	NJ	FFS-1	44.74
	NJ	FFS-2	49.22
	NC	FFS-2	49.22
6	CA	FFS-1	48.50
	MI	FFS-1	48.50
	MI	FFS-2	35.00
	NJ	FFS-1	48.50
	NJ	FFS-2	35.00
	NC	FFS-1	48.50
	NC	FFS-2	35.00
7	MI	FFS-1	32.00
	MI	FFS-2	48.00
8	CA	CAP	41.74
	CA	FFS	55.11
	MI	FFS	55.11
	NJ	CAP	41.74
	NJ	FFS	55.11
	NC	FFS	55.11

[a] Dual-party premium is for the enrollee and one dependent.

SAMPLE SIZE

To determine overall sample size, we conducted power calculations of several outcomes. Table 2.2 presents the power calculations that demonstrate detectable differences for several outcomes across plans. The outcomes are scale scores for satisfaction with access, availability, cost, quality of care, continuity of care, and general satisfaction. The means and the standard deviations come from the RAND Health Insurance Experiment (12). The power calculations assume patients are independent, but we expected that many patients might see the same dentist,

work at the same location, and live in the same city. The predicted effective sample size therefore was 1,514 to account for any clustering in the data. Table 2.2 shows our sample size was large enough to detect differences across the plans of three to nine percent. The availability of resources allowed us to expand the sample size and to further increase the power, ultimately including 2,340 subjects.

Table 2.2
Detectable Differences in Satisfaction Outcomes Across Plan Types with an Effective Sample Size of 1,514 Patients

Satisfaction Scale	Mean	Standard Deviation	Detectable Absolute Difference	Detectable Percentage Difference
Access	9.60	2.24	0.56	5.83
Availability	7.24	1.28	0.32	4.42
Cost	5.03	1.47	0.37	7.31
Pain	9.05	2.52	0.63	6.96
Quality	24.75	3.40	0.85	3.43
Continuity of care	4.03	0.86	0.22	5.33
General satisfaction	3.26	1.06	0.27	8.13

The sample sizes for plan type, premium, market, and company are shown in Table 2.3. More subjects were in FFS plans than in CAP plans. Seven plans had a dual-party premium of less than $30.00 and these included 403 subjects. The 11 plans with a dual-party premium of $30.00 to $39.99 had 565 subjects. There were 841 subjects in the 16 plans that had a premium between $40.00 and $49.99. The eight plans with a dual-party premium $50.00 or higher had 491 subjects in the sample. Almost 27 percent of the sample was in Company #1, which had nine combinations of plan type and markets. Company #2 had ten combinations of plan type and markets and was the other company with over 20 percent of the sample. The California and Michigan markets both had over 30 percent of the sample. Additional information on the distribution by company, state, plan type, and range of dual-party premiums is shown in Appendix B.

Table 2.3
Distribution of Sample by Plan Type, Dual-Party Premium, Market, and Company

	Frequency	Percentage
Plan type		
CAP	989	42.3
FFS	1,351	57.7
Dual-party Premium ($ per month)		
< $30	440	18.8
$30–$39.99	565	24.1
$40–$49.99	841	36.0
≥ $50	494	21.1
Market		
California	787	33.6
Michigan	864	36.9
New Jersey	405	17.3
North Carolina	284	12.1
Company		
1	607	25.9
2	150	6.4
3	206	8.8
4	254	10.9
5	507	21.7
6	189	8.1
7	118	5.0
8	309	13.2

STUDY SAMPLE AND DATA COLLECTION

The research team established a target number for each of the 42 combinations of company, plan, and market based on the total sample for enrollees. Since the number of employees within each state varied, the target number for each plan type varied, as did the sampling ratio. In some plans in some states, everybody in the plan was included in the sample where in others it might have been ten percent of those enrolled.

Six companies provided a list of employees in each of their plans and those who had waived coverage. The lists generally included name, address, telephone number, and identification number, but some companies were unable to include such information as the telephone number of the employee. These numbers had to be sought by calling the information operator. Two

companies elected to draw the samples themselves using the sampling method provided by the research staff.

Where there were sufficient individuals for a plan, three times the sample target number for the plan was selected at random. Each individual was sent a letter describing the study, indicating that they might be contacted and that there would be a payment of $15.00 if they were interviewed. The letter was approved by the UCLA Office for Protection of Research Subjects, as was the project.

The report is based on a telephone survey of the plan enrollees using an interview instrument developed for the study (see Appendix C). This instrument was based in part on previously published questionnaires including the ADA survey of its members (13) and the Baseline Questionnaire used in The HIV Cost and Services Utilization Study (14). Because these questionnaires contained insufficient items to fully assess the performance of the plan, many of the items were designed specifically for this study. The instrument was pretested on 20 individuals in Los Angeles who had either a capitation or fee-for-service dental plan.

Information was gathered for the calendar year 1997. The enrollee questionnaire had five major sections: questions about the dental plan; questions about the use of the dental plan; questions about the dentist(s); questions about enrollees' oral health; and enrollee demographic characteristics. In total the questionnaire contained 241 variables. The interview typically required 20 to 25 minutes to administer.

Subjects were contacted by telephone until we either got a refusal or could not make contact after approximately 10 calls. The individual interviewed on the phone was the primary individual insured in the plan. The overall process was continued until we met our target number for each plan or we reached a point at which the returns on our efforts were too low to warrant continuing. The response rate includes refusals and those we were not able to contact after repeated attempts. Table 2.4 shows the response rates by type of plan and market. The response rate was higher in the CAP group than in FFS plans (66 percent versus 54 percent). Within a market, the largest range in the response rate was New Jersey (15 percent).

Table 2.4
Response Rates by State and by Plan Type

Plan Type	California	Michigan	New Jersey	North Carolina	Total
CAP	65%	48%	63%	80%	66%
FFS	54%	51%	48%	69%	54%

ANALYSIS PLAN

The bivariate analyses are presented for plan type, dual-party premium, and out-of-pocket cost. The multivariate analyses, on the other hand, are presented for use, oral health status, satisfaction with plan, satisfaction with dentist, and overall rating of the plan. To be able to make comparisons, for bivariate analyses dual-party premiums are used, but when conducting the multivariate analyses, coverage-specific premiums are used instead. Coverage-specific premium is based on plan-specific individual, dual, or family premium, which captures the type of coverage.

Bivariate Analyses

The bivariate analyses dealt primarily with plan type, dual-party premium, and out-of-pocket cost. Plan type and out-of-pocket cost are categorical variables, whereas premium is continuous. For categorical data, chi-square tests were conducted and percentages reported and for continuous data analysis of variance were conducted and means and standard errors are reported. Since we conducted 46 bivariate comparisons, we set the significance level at .001 rather than .05 (.05 divided by 46).

Multivariate Analyses

The multivariate analyses enable us to examine the relation between two variables while simultaneously controlling for the effects of other relevant variables. Multivariate analyses were carried out on five dependent variables: 1) use of the plan; 2) oral health status; 3) satisfaction with plan; 4) satisfaction with dentist; and 5) rating of plan. Since 19 variables were entered in these five models, using Bonferroni adjustment the significance level was set at $p<.0026$ (.05/19).

Use of the plan (use/nonuse) is a dichotomous outcome variable, so logistic regression was employed. The other four dependent variables (oral health, satisfaction with plan, satisfaction with dentist, and rating of plan) are scales. Initially they were treated as continuous variables and a logarithmic transformation was applied to normalize the distribution and to determine if linear regression analysis could be employed. This transformation, however, did not normalize the distribution. As a result, these four dependent variables are treated as ordinal outcome variables and multinomial regression analysis was used.

The independent variables used in multivariate analyses for use/nonuse analysis are shown in Table 2.5. Since both education and income were significantly correlated ($p < .001$), only

income is used in the analysis. For each of the categorical independent variables, a reference group was determined, and these are shown in Tables 2.6a–2.6d.

Table 2.5
Use of Plan: Variables and Reference Groups Used in Logistic Regression Analysis

Variable used in the regression	Reference group
Type of plan (FFS or CAP)	FFS
Coverage specific premium	(not categorical)
Market	North Carolina
First year in the plan	All others
Age	(not categorical)
Gender	Male
Race/ethnicity	White
Income	Greater than $100,000

The variables used in the four multinomial regressions are shown in Tables 2.6a, 2.6b, 2.6c and 2.6d.

Table 2.6a: Oral Health Status

Covariates used in the analysis	Reference Group
Type of plan	FFS
Market	North Carolina
First year in the plan	All others
Age	(not categorical)
Gender	Male
Race/ethnicity	White
Income	Greater than $100,000
Out-of-pocket cost	Nonusers
Coverage-specific premium	(not categorical)

Table 2.6b: Satisfaction with Plan

Covariates used in the analysis	Reference Group
Type of plan	FFS
Market	North Carolina
First year in the plan	All others
Age	(not categorical)
Gender	Male
Race/ethnicity	White
Income	Greater than $100,000
Coverage-specific premium	(not categorical)
Perceived unmet dental need	No need

Table 2.6c: Satisfaction with Dentist

Covariates used in the analysis	Reference group
Type of plan (FFS or CAP)	FFS
Coverage specific premium	(not categorical)
Market	North Carolina
First year in the plan	All others
Age	(not categorical)
Gender	Male
Race/ethnicity	White
Income	Greater than $100,000
Out-of-pocket cost	Nonusers
Perceived unmet dental need	No need

Table 2.6d: Rating of Plan

Covariates used in the analysis	Reference Group
Type of plan	FFS
Market	North Carolina
First year in the plan	All others
Age	(not categorical)
Gender	Male
Race/ethnicity	White
Income	Greater than $100,000
Out-of-pocket cost	Nonusers
Coverage-specific premium	(not categorical)
Perceived unmet dental need	No need

Chapter Three

RESULTS

OVERALL DESCRIPTIVE STATISTICS

Demographics of the Sample

The sample was predominantly male (73 percent) and largely white (80 percent white, 7.6 percent African American, 5.0 percent Asian, 5.3 percent Hispanic, 2.6 percent other). Only 12 percent of the sample was under 35 years of age, with 48 percent from 35 to 49, and 40 percent over 50 years old. Forty-nine percent had graduated from college and a further 33 percent had some college education. Sixty-nine percent had family incomes over $50,000 annually.

Coverage

The bulk of the sample (74 percent) had been covered by their plan for five years or more and only nine percent had any other dental coverage. Eight percent had seen a general dentist not in the plan. Twenty percent had individual coverage under the plan, 26 percent had dual coverage, and 54 percent had family coverage. The median dual-party premium of the plans was $41.74 per month and the range was from $22.40 to $61.75. All had a medical plan, and 69 percent were in a managed care medical plan, 17 percent in a PPO, and 14 percent in a nonmanaged care medical plan.

Use

Eighty-nine percent used the plan in 1997. Of those who used a plan, 18 percent had at least one emergency visit and 99 percent received nonemergency care (they could have had both). Seventy-nine percent had two or more visits, and 40 percent had more than three visits. The most common services for nonemergency care were examinations/check ups, cleanings, Xrays, and fillings. Ninety-seven percent of users had their teeth cleaned in 1997. Much less common, in rank order, were crowns, root canals, gum treatments, oral surgery, cosmetic dentistry, and orthodontics. When asked who cleaned their teeth the last time they were cleaned, 83 percent indicated it was a hygienist.

We classified the care into three major types: primary (diagnostic and preventive), secondary (fillings, crowns, etc.), and tertiary (surgery, prosthetics). The distribution for the three was

primary only 39.7 percent, secondary 43.2 percent (could also have had primary care), tertiary 17.1 percent (could also have had primary and secondary care).

For the 11 percent who did not use care in 1997, the most common reasons (ranked in terms of their importance) were did not need dental care, were afraid of dentist and dental treatment, did not think it was important enough, the dentist they wanted was not in the plan, did not like the dentist in the plan, had trouble finding a dentist in their area, the treatment was not covered, and even with the plan they could not afford the treatment.

Sixty-two percent of the sample reported spending less than $100 out-of-pocket for their care and 91 percent spent less than $500. The respondents reported that the amount of time they waited for an appointment was reasonable for both emergency and nonemergency care (86 percent). Only eight percent reported needing dental care but not getting it. The most common reasons for not getting needed care were had no dental disease, did not think dental care was important enough, afraid of dental treatment or dentists, and the dentist the person wanted was not in the plan.

Specialists

Twelve percent had seen a specialist in 1997. For the most part (56 percent) the specialist was chosen by their dentist, and 94 percent of those who had a specialist were satisfied with the ease of the referral. The specialists ranked in terms of the percentage using them were periodontists, endodontists, oral surgeons, and orthodontists. Only three percent reported needing a specialist but not getting one.

Oral Health

Eighty-four percent of the sample reported having no missing teeth. Less than seven percent reported taking medication for pain and discomfort from or around the mouth in the previous three months. Eighty-four percent reported having no untreated decayed teeth or cavities. Most rated their overall dental health as very good or excellent (58 percent) or as good (31 percent), although only 37 percent thought it had improved since they joined the plan (56 percent thought it was about the same). However, 53 percent attributed their dental health to the plan. Most reported brushing their teeth at least twice daily (79 percent), but only 39 percent flossed daily. Ninety-nine percent agreed with the statement that dental health was of great value to them. Ninety-four percent rated their overall general health as good to excellent, which is higher than their rating of their oral health (58 percent).

Experience with Plan

In terms of their experience with the plan, 70 percent of the respondents found it easy to obtain information from the plan, and 77 percent found it easy to find a dentist in the plan. Eighty-four percent had the dentist who was their first choice. Two-thirds of respondents rated the number of dentists they had to choose from as good, very good, or excellent, and 33 percent thought the number was fair to poor. Twenty-one percent had called the plan in 1997. Of those who had called, 25 percent had trouble finding the number to call, 80 percent talked to a person who could not answer their questions, 29 percent reported talking to two or more individuals for help. Only five percent had called or written with a complaint. Although 24 percent needed preapproval for some care in 1997, few (eight percent) reported any delays in care while they waited for approval, and only four percent reported being unable to get a referral to a specialist. Seventeen percent postponed care because of costs. Of those who did, the primary reasons were that the copayments were too high, the maximum allowance was too low, or the service was not covered by the plan.

Only 16 percent had ever changed their plan while working at the present company (and of those who did 73 percent had done it once), but 24 percent would have liked to change to another option. Sixteen percent had changed dentists. The most common reasons for changing plans were dissatisfaction with the dentist, the dentist left the plan, the patient found a dentist more conveniently located, and the patient found a better dentist.

Satisfaction with Plan

Overall, 78 percent of the sample was either satisfied or very satisfied with their plan and 83 percent were satisfied with the benefits. Seventy-four percent said they would definitely or probably recommend the plan to friends or a family member. Most were satisfied with the choices of plans (74 percent). In rating the plan, 62 percent gave the plan either a very good or excellent rating. Those who had used the plan were satisfied with the amount of paperwork (89 percent), with the courtesy of the person they dealt with (98 percent), and the speed with which any submitted claims were paid (76 percent). Of the five percent who had made a complaint to the plan, almost half were very dissatisfied with how their most recent complaint was handled, and a third of this group reported their complaint was not resolved.

In terms of satisfaction with services, for those who had used them, the rates of satisfaction were (in rank order) examinations (94 percent), Xrays (92 percent), preventive care (90 percent), fillings (86 percent), extractions (82 percent), root canals (77 percent), gum treatment (75 percent), dentures (66 percent), crowns/bridges (64 percent), and orthodontics (59 percent). Ninety-four percent were satisfied with their cleanings. For emergency care, 88 percent reported

getting care either the same or next day. For nonemergency appointments, 64 percent reported waiting two to three weeks. Most (71 percent) waited in the office less than 15 minutes for treatment when on time for an appointment.

Satisfaction with Dentist

Eighty-eight percent were either satisfied or very satisfied with their dentist. The respondents rated the quality of the care they received as either very good or excellent (72 percent) or as good (21 percent). The rating of their overall care was also very high (70 percent rated either very good or excellent). Ninety-two percent were either satisfied or very satisfied with the skills of the dentist. Furthermore, for those who had used a specialist, 91 percent were satisfied with the quality of the specialist. Ninety-two percent rated how well the care met their needs as good to excellent.

The patients were either satisfied or very satisfied with most of the features of the practices (cleanliness 96 percent, location 91 percent, availability of getting appointments 80 percent, reminders for follow-ups 87 percent). They are also satisfied with the more personal aspects of the care: length of time the dentist spends with them 89 percent; the dentist listens to them 95 percent; the dentist explains the treatment 95 percent; the dentist gives attention to what they say 92 percent; the dentist explains tests and procedures; they are given information about keeping gums and teeth clean 93 percent; and the dentist shows respect for the patient 93 percent.

BIVARIATE ANALYSES

Using Bonferroni adjustment, a significance level of .001 is used to account for the multiple bivariate tests performed. It should be noted that for out-of-pocket cost the sample is limited to plan users.

Demographics and Family Size

In Table 3.1 we present the comparison between plan type, plan premium, and out-of-pocket cost and the demographic variables race/ethnicity, gender, age, and family size. In plan type there were significant differences in race/ethnicity, age, and family size but not in gender. Seventy percent of those in the CAP plans were white compared to 86 percent in the FFS plans. Those enrolled in FFS plans were older than those in CAP plans. There was a significant difference in type of coverage (individual, dual, family). Comparing CAP and FFS plans, a higher percentage of those in the CAP plans had family coverage and a higher percentage of the FFS had dual coverage. The plans were not significantly different in educational attainment of the enrollees or in family income.

Of interest was the finding that the mean monthly premium for plans for whites and Asians was the highest ($43) and the premium for plans for African-Americans was the lowest ($36). The premium increased for each of the four age categories, although by a small amount (only $4 difference between the highest and lowest premium). For out-of-pocket cost, there was a significant age difference. Older plan users had higher out-of-pocket cost. Forty-one percent of respondents less than 35 years of age had no cost, whereas for 65 years and over the same figure was 22 percent.

Table 3.1
Selected Demographic Variables by Plan Type, Plan Premium, and Out-of-Pocket Cost

Variable Type: Demographic		Plan Type		Dual-Party Premium per month		Out-of-Pocket Cost for Plan Users				
		Cap	FFS			Row %				
		Column %								
Variable / Category	n	(n=989)	(n=1,351)	Mean $	SE	0 Cost	$1–$50	$51–$150	$151–$350	$351–$3,000
Race /Ethnicity		*		*						
White	1,839	70	86	43	0.27	28	33	15	13	12
African-American	176	12	5	36	0.79	37	23	15	13	13
Asian	116	7	3	43	1.13	29	26	20	14	11
Hispanic	122	8	3	41	1.06	31	24	17	13	14
Native American	17	1	1	37	2.16	29	29	21	14	7
Other	44	2	2	43	1.65	26	17	20	14	23
Gender										
Male	1,692	75	71	42	0.29	29	31	16	13	12
Female	644	25	29	42	0.43	30	31	14	12	13
Age		*		*		*				
< 35 years	283	17	9	40	0.60	41	35	10	8	6
35–49 years	1,101	51	45	41	0.36	30	30	16	13	11
50–64 years	708	27	34	43	0.46	25	28	15	17	16
≥ 65 years	206	5	12	44	0.63	22	41	18	9	10
Family size		*								
Individual	442	21	19	---	---	27	32	17	11	13
Dual	493	22	29	---	---	29	30	15	14	12
Family	1,192	57	52	---	---	30	31	15	13	11

Sample size = 2,340
* significant at p< .001

Plan Type and Market

As shown in Table 3.2, the dual-party monthly premiums in the market with the highest HMO penetration (California) and the lowest (North Carolina) were quite similar ($44 and $43, respectively). The average dual-party premium for FFS plans was $15 higher than CAP plans.

There was significant out-of-pocket cost difference among the four markets. Michigan had the lowest percentage (22 percent) with zero cost, whereas New Jersey had the highest (36 percent). There was significant difference between the two plan types. Forty-five percent of FFS plan users had zero out-of-pocket cost whereas only 18 percent of CAP plan users had no out-of-pocket cost.

There was significant out-of-pocket cost difference for type of care. Forty-three percent of respondents that received primary care reported no out-of-pocket cost, and 28 percent of respondents that received tertiary care had from $351 to $3,000 of out-of-pocket expense.

Table 3.2
Type of Market by Plan Type, Plan Premium, and Out-of-Pocket Cost

Variable / Category		Dual-Party Premium per Month		Out-of-Pocket Cost for Plan Users				
				Row Percent				
	n	Mean $	SE	0 Cost	$1–$50	$51–$150	$151–$350	$351–$3,000
Market				*				
CA	786	44	0.45	26	26	16	14	18
NJ	864	47	0.50	36	33	14	10	6
MI	404	38	0.38	22	31	19	14	14
NC	283	43	0.54	26	35	13	17	9
Plan type				*				
CAP	1,349	33	0.24	18	35	18	14	14
FFS	488	48	0.27	45	25	11	11	9

Sample size = 2,340
* significant at p< .001

Use

Those in FFS plans used the plan (Table 3.3) six percent more (92 percent versus 86 percent) than those in CAP plans, and this difference, although statistically significant, does not represent

a meaningful difference at these high levels of use. This difference did not hold up when the influence of other variables was taken into account in the multivariate analysis. The plans were not significantly different in those who saw a specialist under the plan in 1997. They were significantly different, however, in who selected the specialist. The plan was much more likely to make the choice in the CAP plans, and the patient much more likely in the FFS plans.

There was a significant difference in type of use between FFS and CAP plans (Table 3.3). CAP plans had a higher percentage of those who did not use the plan or had emergency care with or without routine care. In examining the type of use by the categories "primary," secondary," and "tertiary" care as defined earlier, there were no significant differences in the two plans.

There was significant out-of-pocket cost difference for type of use. Among routine-only users 31 percent reported not having any out-of-pocket expense, whereas among emergency/routine users 19 percent reported no cost. Twenty-six percent of emergency/routine users reported having the highest out-of-pocket cost compared to nine percent of routine-only users.

Table 3.3
Use of Services by Plan Type, Plan Premium, and Out-of-Pocket Cost

Variable type: Use		Plan Type		Dual-Party Premium per Month		Out-of-Pocket Cost for Plan Users				
		CAP	FFS			Row %				
		Column %								
Variable / Category	**n**	(n=989)	(n=1,351)	**Mean $**	**SE**	**0 Cost**	**$1–$50**	**$51–$150**	**$151–$350**	**$351–$3,000**
Type of use:		*				*				
Nonuser	263	14	9	40	0.67	---	---	---	---	---
Emergency/routine**	352	17	16	41	0.63	19	19	17	20	26
Routine only	1,695	69	76	43	0.29	31	33	15	11	9
Type of care:						*				
Primary	815	41	39	42	0.41	43	40	11	4	2
Secondary	884	42	44	42	0.40	21	27	19	18	15
Tertiary	350	16	16	43	0.66	18	19	15	20	28

Sample size = 2,340
* significant at p< .001
** Emergency/routine includes emergency with or without routine care.

Oral Health

Table 3.4 shows both self-rated oral health status and self-reported number of untreated decayed teeth. Overall oral health showed a significant difference with those in the FFS plans more likely

than those in the CAP plans to rate their oral health as excellent (24 percent versus 15 percent) and more likely to report fewer decayed teeth.

Those in the FFS plans were also significantly more likely to rate their oral health as better when they joined the plan than did those in the CAP plans (23 percent versus 14 percent). Conversely, ten percent of the CAP enrollees rated their oral health as either somewhat worse or much worse than when they joined the plan compared to only four percent for the FFS.

There was no significant premium difference in self-reported oral health status or decay status.

For out-of-pocket cost there were significant differences for self-rating of oral health and self-reported number of untreated decayed teeth. For respondents with "fair/poor/very poor" oral health rating, 18 percent had the highest out-of-pocket expense, whereas for those that reported "excellent" oral health only seven percent had the highest out-of-pocket expense.

Table 3.4
Oral Health by Plan Type, Plan Premium, and Out-of-Pocket-Cost

Variable type: Oral Health		Plan Type		Dual-Party Premium per Month		Out-of-Pocket Cost for Plan Users				
		CAP	FFS			Row %				
		Column %								
Variable / Category	**n**	(n=989)	(n=1,351)	**Mean $**	**SE**	**0 Cost**	**$1–$50**	**$51–$150**	**$151–$350**	**$351–$3,000**
Self-reported oral health status		*				*				
Fair/poor/very poor	271	16	8	39	0.82	25	25	15	18	18
Good	719	34	28	41	0.44	27	28	16	15	14
Very good	879	35	39	42	0.40	30	31	15	12	11
Excellent	470	15	24	44	0.53	32	38	14	8	7
Self-reported untreated decayed teeth		*				*				
6+ teeth	26	2	1	40	2.23	37	25	8	21	8
3–5 teeth	77	5	2	38	1.25	29	17	10	17	27
1–2 teeth	264	14	10	41	0.74	26	21	14	19	19
None	1,919	79	87	42	0.27	29	33	15	12	11

Sample size = 2,340
* significant at p< .001

Experience with Plan

Those in the FFS plans were significantly more likely to have been in the plans for five years or more than those in the CAP plans (78 percent versus 68 percent). The plans were significantly different with regard to how easy it was to find a dentist in the plan, with 77 percent of those in FFS plans reporting it was "very easy" versus only 21 percent in the CAP plans. Twenty-six percent of the CAP group found it somewhat to very hard to find a dentist versus seven percent in FFS plans. Furthermore, the plan types were significantly different in their ratings of the number of dentists they had to choose from (37 percent rated this as excellent in the FFS plans, and only eight percent did so in the CAP plans). Significantly fewer enrollees in the FFS plan changed dentists in the past year (ten percent versus 23 percent). The plans were significantly different with regard to the rating of the time the enrollee must wait between appointments when they had a series of appointments, with 38 percent of the FFS rating this as excellent versus 14 percent for the CAP plans and 32 percent of these rating it as fair or poor versus seven percent for the FFS plans. The plan types were also significantly different in the ease of getting an appointment by telephone, with 22 percent of the CAP enrollees rating this as fair or poor compared to only four percent of the FFS enrollees.

Those in the CAP plans were significantly less satisfied with the choices of dental plans offered by their company. Twenty percent were either dissatisfied or very dissatisfied versus nine percent in FFS plans. Overall the CAP group was also significantly more dissatisfied with the benefits in the plan (11 percent versus six percent for the FFS).

As shown in Table 3.5, there were significant differences in plan type for overall rating of the plan, quality of care, plan meeting needs, and overall care. In every category, those in the FFS plans rated their plan experience better than those in CAP plans, and those differences were significant ($p<.001$). In the overall rating of the plan, 25 percent of the FFS group rated it as excellent compared to 14 percent for the CAP plans. In terms of their overall rating of the quality of the care they received, those in the FFS group were much more likely to rate this as excellent (56 percent versus 22 percent) and less likely to rate it as fair to poor (two percent versus 15 percent). In judging how well the plan met their needs, FFS enrollees were more likely to rate their plan as excellent (50 percent versus 20 percent) and less likely to rate the plan as fair to poor (two percent versus 17 percent). For overall care, the FFS enrollees were more likely to rate this as excellent (52 percent versus 20 percent).

The premium paid is highest for those who rated the plan as excellent and lowest for those who rated it average/poor. This same pattern repeats for quality of care, plan meeting enrollees'

needs, and overall care. In each of these, the relationship was linear so that for each decrease in premium, there was a decrease in the plan rating.

Table 3.5
Plan Experience by Plan Type, Plan Premium, Out-of-Pocket Cost

Variable type: Plan Experience		Plan Type		Dual-Party Premium per Month		Out-of-Pocket Cost for Plan Users				
		CAP	FFS			Row %				
		Column %								
Variable / Category	n	(n=989)	(n=1,351)	Mean $	SE	0 Cost	$1–$50	$51–$150	$151–$350	$351–$3,000
Overall rating of the plan		*				*				
Average/poor		48	31	40	0.71	27	25	16	16	16
Very good		38	44	43	0.37	30	33	15	12	10
Excellent		14	25	46	0.47	32	36	15	9	8
Quality of care		*				*				
Fair/poor	156	15	2	34	0.76	42	21	13	12	11
Good	462	34	11	37	0.49	36	26	14	12	11
Very good	668	30	31	41	0.44	28	32	16	11	12
Excellent	910	22	56	45	0.36	27	32	15	14	12
Plan meets needs		*				*				
Fair/poor	185	17	2	34	0.69	38	21	12	12	16
Good	488	32	15	38	0.49	34	24	17	13	12
Very good	708	31	33	41	0.43	29	32	16	11	11
Excellent	821	20	50	45	0.38	27	34	14	14	11
Overall care		*				*				
Fair/poor	176	17	2	34	0.69	41	20	13	13	13
Good	474	33	13	38	0.49	36	25	15	12	12
Very good	716	31	34	42	0.43	28	31	17	12	12
Excellent	834	20	52	45	0.37	26	34	14	14	11

Sample size = 2,340
* significant at $p<0.001$

Satisfaction with Plan

Whereas Table 3.5 dealt with how respondents rated their experience with the plans, Table 3.6 presents respondents' satisfaction with the plan. There were significant differences in all satisfaction measures between FFS and CAP plans.

Those in FFS plans were significantly more satisfied with their dental plan. They were also more satisfied with plan benefits, were less likely to want to change plans, and were more likely to recommend their dental plan than those in CAP plans.

The higher the plan premium the more satisfied enrollees were with their plan and its benefits, the less likely they were to want to change plans, and the more likely they were to recommend their plan. While those with a higher premium were more satisfied with their plan, those with higher out-of-pocket costs were more dissatisfied. Those with the highest out-of-pocket expenses were more than twice as likely to be "dissatisfied" than "very satisfied." Those with higher out-of-pocket costs were also more dissatisfied with plan benefits, more likely to want to change plans, and less likely to recommend their plan.

There were significant out-of-pocket differences for all indicators of satisfaction with plan. Among respondents who were "dissatisfied" with plan, 20 percent had highest out-of-pocket cost, whereas the same figure for the "very satisfied" category was nine percent. The same pattern is evident for the satisfaction with benefits. When asked would they like to change plans, 17 percent of respondents who reported "yes" had highest out-of-pocket expense. The same figure for those who indicated that they did not wish to change the plan was nine percent. For those who responded that they would "definitely not" recommend the plan, 19 percent had the highest amount of out-of-pocket expense, whereas among the "definitely yes" category only nine percent had the highest out-of-pocket expense.

Table 3.6
Satisfaction by Plan Type, Plan Premium, Out-of-Pocket Cost

Variable type: Satisfaction		Plan Type		Dual-Party Premium per Month		Out-of-Pocket Cost for Plan Users				
		CAP	FFS			Row %				
		Column %								
Variable / Category	n	(n=989)	(n=1,351)	Mean $	SE	0 Cost	$1–$50	$51–$150	$151–$350	$351–$3,000
Satisfaction with plan		*		*		*				
Dissatisfied	223	18	6	37	0.99	28	22	12	18	20
Satisfied/neutral	1,038	57	46	41	0.58	29	28	17	14	12
Very satisfied	792	24	47	45	0.37	29	38	14	10	9
Satisfaction with benefits		*		*		*				
Dissatisfied	186	11	6	39	0.87	22	18	16	17	27
Neutral	211	11	8	41	0.82	23	23	15	20	19
Satisfied	1,923	78	86	42	0.27	30	33	15	12	10
Would like to change plans		*		*		*				
No	1,178	74	91	43	0.33	31	33	15	12	9
Yes	433	26	9	40	0.50	31	24	13	14	17
Would recommend the plan		*		*		*				
Definitely not	193	13	5	38	0.87	33	16	15	18	19
Probably not	265	14	10	40	0.74	26	22	16	17	19
Not sure	145	5	7	43	1.06	23	38	16	11	11
Probably yes	984	42	42	41	0.37	29	33	15	12	11
Definitely yes	748	26	36	45	0.41	30	33	16	12	9

Sample size = 2,340
* significant at $p<0.001$

Satisfaction with Dentist

Satisfaction with the dentist (Table 3.7) follows the same pattern as it does for the plan. Those in FFS plans were significantly more satisfied with their dentist and with their dentist's skills. Seventy-one percent of those in the FFS plans indicated they were very satisfied with the dentist compared to 33 percent in the CAP plans while two percent in the former were either dissatisfied or very dissatisfied compared to 11 percent in the latter. In terms of the overall skill of the dentist, 98 percent of the FFS group was very satisfied compared to 86 percent in the CAP group. Their dentist was their first choice for 94 percent of those in FFS plans compared to 69 percent for CAP enrollees.

Looking at more specific aspects of their care, the enrollees in the two plans were significantly different in their satisfaction with the office and equipment cleanliness (77 percent very satisfied

with FFS, 46 percent for CAP), with the location of the office (65 percent very satisfied for FFS, 42 percent for CAP), availability of dental appointments (27 percent of the CAP were either dissatisfied or very dissatisfied compared to three percent for the FFS enrollees), and with reminders for follow-ups (27 percent of the CAP were very satisfied versus 64 percent for the FFS group). The CAP enrollees were much more likely to rate the length of time between appointments when they had a series of appointments as fair or poor (32 percent) as opposed to those in the FFS plans (six percent).

On the more interpersonal qualities, FFS patients expressed greater satisfaction with the attention the dentist paid to what they said (64 percent very satisfied in the FFS, 30 percent in the CAP), with the amount of time the dentist spent with them (11 percent of the CAP group said they were dissatisfied or very dissatisfied with this in contrast to two percent for the FFS enrollees), and with the fact that the dentist explained treatment (59 percent FFS very satisfied versus 31 percent for the CAP).

For thoroughness of the examination, 53 percent rated this as excellent in the FFS group, 21 percent in the capitated group, and conversely 14 percent of the latter rated this as fair or poor while only one percent of the former did so. The overall rating of the quality of the care they received showed that among the FFS enrollees 56 percent rated this as excellent, while only 22 percent of those in capitated plans did so. The two plans also differed significantly in their satisfaction with the cleaning (69 percent very satisfied for FFS, 41 percent for the capitated).

For out-of-pocket cost, there were significant differences for the two satisfaction ratings of the dentist. Among the "very satisfied" group, 12 percent had highest out-of-pocket cost, whereas among the dissatisfied group 17 percent had highest expense. For satisfaction with dentist's skills, the same pattern exists. The "very satisfied" rating had lower likelihood of having excessive out-of-pocket expense.

Table 3.7
Satisfaction with Dentist by Plan Type, Plan Premium, Out-of-Pocket Cost

Variable type: Satisfaction		Plan Type		Dual-Party Premium per Month		Out-of-Pocket Cost for Plan Users				
		CAP	FFS							
		Column %				Row %				
Variable / Category	**n**	(n=989)	(n=1,351)	**Mean $**	**SE**	**0 Cost**	**$1–$50**	**$51–$150**	**$151–$350**	**$351–$3,000**
Satisfaction with dentist		*		*		*				
Dissatisfied	122	11	2	44	0.32	38	23	16	7	17
Satisfied/neutral	876	56	27	39	0.40	35	29	13	12	11
Very satisfied	1,203	33	71	36	1.19	26	32	16	14	12
Satisfaction with dentist's skills		*		*		*				
Dissatisfied	23	2	2	44	0.33	47	24	6	6	18
Satisfied/neutral	132	12	2	38	0.37	44	22	14	11	9
Very satisfied	2,015	86	98	36	1.62	29	31	15	13	12
Dentist of first choice		*		*						
No	311	31	6	37	0.56	38	27	13	14	8
Yes	1,479	69	94	42	0.29	29	31	16	13	12

Sample size = 2,340
* significant at $p < 0.001$

MULTIVARIATE ANALYSES [2]

Use of Plan

Although the overall use was high (88.6 percent had one or more visits in 1997), the logistic regression analysis shows some significant differences between users and nonusers (Table 3.8).

Several demographic characteristics showed significant differences. Women were 76 percent more likely to use services than men; nonwhites were 39 percent less likely to use the plan than whites; and families with income of $50,000 or less were 41 percent less likely to use the plan compared to those with family incomes of $100,000 or more.

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[2] Please note, for multivariate analyses Bonferroni adjustment was used. The criterion for statistical significance was set at $p < .0026$ (.05/19) since 19 covariates were used in the models.

Table 3.8
Use of Dental Services: Logistic Regression

Variable / Category	Parameter Estimate	SE	p-value	Odds Ratio	95% CI (lower)	95% CI (upper)
Type of plan						
(Fee-for-service)			(reference)			
CAP	-0.23	0.162	0.1525	0.79	0.58	1.09
Market						
(North Carolina)			(reference)			
California	0.29	0.228	0.2052	1.34	0.85	2.09
Michigan	0.31	0.220	0.1556	1.37	0.89	2.10
New Jersey	0.54	0.259	0.0378	1.71	1.03	2.85
Gender						
(Male)			(reference)			
Female	0.57	0.169	0.0008	1.76	1.27	2.46
Race/ethnicity						
(White)			(reference)			
Nonwhite	-0.49	0.162	0.0026	0.61	0.45	0.84
Income						
(> $100,000)			(reference)			
$70,001–100,000	0.20	0.223	0.359	1.23	0.79	1.90
$50,001–70,000	-0.26	0.206	0.2078	0.77	0.51	1.16
≤$50,000	-0.77	0.196	0.0001	0.46	0.32	0.68
Age						
(Continuous)	-0.01	0.006	0.2967	0.99	0.98	1.01
Recently covered						
(All others)			(reference)			
Enrolled in last year	-0.46	0.212	0.0319	0.63	0.42	0.96
Coverage-specific premium						
(Continuous)	0.01	0.004	0.0436	1.01	1.00	2.74
Intercept	2.08	0.462	0.0001	.	.	.

Sample size = 2,272

Oral Health Status

Tables 3.9a, 3.9b, and 3.9c present the results of the multinomial regression using self-reported rating of respondents' oral health status as the dependent variable. The "fair," "somewhat poor," and "poor" categories were combined into a "fair/poor" category. Thus, this dependent variable has four categories: "excellent," "very good," "good," and "fair/poor". The reference category throughout the analysis is "fair/poor."

Table 3.9a reports findings for the "poor" oral health to "excellent" self-reported oral health comparison. In Table 3.9b, the ratio relates "poor" oral health to "very good," and Table 3.9c reports findings for the "poor" versus "good" comparison. Completing the description of these three tables, column four shows the standard error of the parameter estimate, column five the p-value, column six the odds ratio, and columns seven and eight the lower and upper limits of the 95 percent confidence interval for the odds ratio. The reference groups for the categorical covariates are shown in each table.

The results in Tables 3.9a–3.9c show that those in the FFS group rate their oral health better relative to those in the CAP groups. The three lowest income categories were less likely than enrollees earning more than $100,000 to report "excellent" oral health versus "fair/poor." All of the three lowest out-of-pocket cost categories were more likely than nonusers to report "excellent," "very good," and "good" oral health rating versus "fair/poor."

Race/ethnicity showed significant differences. Nonwhites were 50 percent less likely to report "very good" oral health and 38 percent less likely to report "good" than "fair/poor" oral health. No significant differences were found in the "excellent" and "fair/poor" comparison.

Table 3.9a: Oral Health Status: Multinomial Logistic Regression. Ratios of "Excellent" Versus "Fair/Poor" Rating

"Excellent vs. Fair/Poor"	Parameter			Odds	95% CI	
Variable / Category	Estimate	SE	p-value	Ratio	(lower)	(upper)
Type of plan						
(Fee-for-service)			(reference)			
CAP	-1.51	0.209	0.0000	0.22	0.15	0.33
Market						
(North Carolina)			(reference)			
California	-0.14	0.295	0.6431	0.87	0.49	1.56
Michigan	-0.12	0.284	0.6645	0.88	0.51	1.54
New Jersey	-0.24	0.310	0.4449	0.79	0.43	1.45
Gender						
(Male)			(reference)			
Female	-0.08	0.190	0.6704	0.92	0.64	1.34
Race/ethnicity						
(White)			(reference)			
Non-white	-0.77	0.203	0.0002	0.46	0.31	0.69
Income						
(> $100,000)			(reference)			
$70,001–100,000	-0.46	0.239	0.0560	0.63	0.40	1.01
$50,001–70,000	-0.79	0.240	0.0010	0.46	0.29	0.73
≤ $50,000	-0.87	0.242	0.0003	0.42	0.26	0.67
Age						
(Continuous)	-0.01	0.007	0.1002	0.99	0.97	1.00
Out-of-pocket cost						
(Non-users)			(reference)			
No out-of-pocket cost	1.65	0.276	0.0000	5.20	3.03	8.93
$1–$50	1.31	0.270	0.0000	3.72	2.19	6.32
$51–$150	0.87	0.318	0.0064	2.38	1.28	4.43
$151–$350	0.19	0.324	0.5609	1.21	0.64	2.28
$351–$3000	-0.13	0.343	0.7098	0.88	0.45	1.72
Recently covered						
(all others)			(reference)			
Enrolled in last year	-0.44	0.285	0.1209	0.64	0.37	1.12
Coverage-specific premium						
(Continuous)	-0.01	0.005	0.0335	0.99	0.98	1.00
Intercept	2.37	0.620	0.0001	.	.	.

Sample size = 2,270

Table 3.9b: Oral Health Status: Multinomial Logistic Regression. Ratios of "Very Good" Versus "Fair/Poor" Ratings

"Very Good vs. Fair/Poor"	Parameter			Odds	95% CI	
Variable / Category	Estimate	SE	p-value	Ratio	(lower)	(upper)
Type of plan						
(Fee-for-service)			(reference)			
CAP	-1.00	0.187	0.0000	0.37	0.26	0.53
Market						
(North Carolina)			(reference)			
California	0.11	0.271	0.6966	1.11	0.65	1.89
Michigan	-0.16	0.266	0.5358	0.85	0.50	1.43
New Jersey	-0.39	0.290	0.1776	0.68	0.38	1.19
Gender						
(Male)			(reference)			
Female	-0.11	0.172	0.5375	0.90	0.64	1.26
Race/ethnicity						
(White)			(reference)			
Non-white	-0.69	0.173	0.0001	0.50	0.36	0.70
Income						
(>$100,000)			(reference)			
$70,001–100,000	-0.20	0.223	0.3620	0.82	0.53	1.26
$50,001–70,000	-0.34	0.219	0.1239	0.71	0.46	1.10
≤$50,000	-0.30	0.221	0.1697	0.74	0.48	1.14
Age						
Continuous	-0.01	0.007	0.2455	0.99	0.98	1.01
Out-of-pocket cost						
(Non-users)			(reference)			
No out-of-pocket cost	1.68	0.244	0.0000	5.35	3.32	8.64
$1–$50	1.38	0.241	0.0000	3.97	2.47	6.36
$51–$150	1.23	0.281	0.0000	3.43	1.98	5.95
$151–$350	0.78	0.273	0.0042	2.18	1.28	3.73
$351–$3000	0.64	0.279	0.0214	1.90	1.10	3.28
Recently covered						
(All others)			(reference)			
Enrolled in last year	-0.11	0.241	0.6564	0.90	0.56	1.44
Coverage-specific premium						
Continuous	-0.01	0.005	0.1718	0.99	0.99	1.00
Intercept	1.83	0.569	0.0013	.	.	.

Sample size = 2,270

Table 3.9c: Oral Health Status: Multinomial Logistic Regression. Ratios of "Good" Versus "Fair/Poor" Rating

"Good vs. Fair/Poor"	Parameter			Odds	95% CI	
Variable / Category	Estimate	SE	p-value	Ratio	(lower)	(upper)
Type of plan						
(Fee-for-service)			(reference)			
CAP	-0.64	0.188	0.0006	0.53	0.36	0.76
Market						
(North Carolina)			(reference)			
California	0.31	0.282	0.2669	1.37	0.79	2.38
Michigan	0.24	0.276	0.3859	1.27	0.74	2.18
New Jersey	0.04	0.300	0.9043	1.04	0.58	1.87
Gender						
(Male)			(reference)			
Female	-0.14	0.174	0.4381	0.87	0.62	1.23
Race/ethnicity						
(White)			(reference)			
Nonwhite	-0.47	0.172	0.0059	0.62	0.45	0.87
Income						
(>$100,000)			(reference)			
$70,001–100,000	-0.05	0.226	0.8361	0.95	0.61	1.49
$50,001–70,000	-0.17	0.221	0.4419	0.84	0.55	1.30
≤$50,000	-0.25	0.225	0.2664	0.78	0.50	1.21
Age						
(Continuous)	-0.01	0.007	0.2780	0.99	0.98	1.01
Out-of-pocket cost						
(Nonusers)			(reference)			
No out-of-pocket cost	0.86	0.237	0.0003	2.36	1.48	3.75
$1–$50	0.67	0.235	0.0042	1.96	1.24	3.10
$51–$150	0.65	0.276	0.0183	1.92	1.12	3.30
$151–$350	0.43	0.264	0.0997	1.54	0.92	2.59
$351–$3000	0.39	0.269	0.1474	1.48	0.87	2.50
Recently covered						
(All others)			(reference)			
Enrolled in last year	-0.30	0.247	0.2314	0.74	0.46	1.21
Coverage-specific premium						
Continuous	0.00	0.005	0.3099	1.00	0.99	1.00
Intercept	1.52	0.577	0.0086	.	.	.

Sample size = 2,270

Satisfaction with Plan

Tables 3.10a and 3.10b present the results of the multinomial regression for the dependent variable "satisfaction with the plan." For satisfaction with the plan, we used three levels; "very satisfied," "satisfied/neutral," or "dissatisfied/very dissatisfied." For this categorical variable, the reference group is "dissatisfied/very dissatisfied." We combined the satisfied and neutral categories as representing a category where the patient is neither dissatisfied nor overly satisfied.

For plan type, CAP enrollees in both comparisons were less likely to be satisfied with plan than FFS enrollees. As for demographic variables, none of the variables showed significant differences at $p < .0026$ level.

Perceived unmet dental need was also included in the analysis. Respondents with unmet dental need were 72 percent less likely to be satisfied with plan than respondents who did not report having any unmet dental need. The premium amount was significant in the "very satisfied" versus "dissatisfied" comparison. Those whose premiums were higher were more likely to be "very satisfied."

Table 3.10a
Satisfaction with Plan: Multinomial Logistic Regression.
Ratios of "Very Satisfied" Versus "Dissatisfied"

"Very Satisfied vs. Dissatisfied"	Parameter			Odds	95% CI	
Variable / Category	Estimate	SE	p-value	Ratio	(lower)	(upper)
Type of plan						
(Fee-for-service)			(reference)			
CAP	-1.38	0.189	0.0000	0.25	0.17	0.36
Market						
(North Carolina)			(reference)			
California	0.09	0.266	0.7487	1.09	0.65	1.83
Michigan	0.11	0.262	0.6706	1.12	0.67	1.87
New Jersey	0.24	0.314	0.4419	1.27	0.69	2.35
Gender						
(Male)			(reference)			
Female	0.25	0.185	0.1687	1.29	0.90	1.86
Race/ethnicity						
(White)			(reference)			
Nonwhite	-0.06	0.188	0.7332	0.94	0.65	1.35
Income						
(>$100,000)			(reference)			
$70,001–100,000	0.04	0.207	0.8553	1.04	0.69	1.56
$50,001–70,000	0.40	0.219	0.0699	1.49	0.97	2.29
≤$50,000	0.62	0.229	0.0072	1.85	1.18	2.90
Age						
Continuous	0.02	0.007	0.0041	1.02	1.01	1.04
Recently covered						
(All others)			(reference)			
Enrolled in Last Year	-0.16	0.271	0.5491	0.85	0.50	1.45
Coverage-specific premium						
Continuous	0.01	0.005	0.0403	1.01	1.00	1.02
Perceived unmet dental need						
(All others)			(reference)			
Has Unmet Need	-2.56	0.277	0.0000	0.08	0.04	0.13
Intercept	0.24	0.540	0.6575	.	.	.

Sample size =2,249

Table 3.10b
Satisfaction with Plan: Multinomial Logistic Regression.
Ratios of "Satisfied" Versus "Dissatisfied"

"Satisfied vs. Dissatisfied"	Parameter			Odds	95% CI	
Variable / Category	Estimate	SE	p-value	Ratio	(lower)	(upper)
Type of plan						
(Fee-for-service)			(reference)			
CAP	-0.71	0.178	0.0001	0.49	0.35	0.70
Market						
(North Carolina)			(reference)			
California	0.38	0.259	0.1392	1.47	0.88	2.44
Michigan	0.45	0.257	0.0785	1.57	0.95	2.60
New Jersey	0.74	0.307	0.0153	2.10	1.15	3.84
Gender						
(Male)			(reference)			
Female	0.18	0.175	0.3089	1.19	0.85	1.68
Race/ethnicity						
(White)			(reference)			
Nonwhite	-0.05	0.170	0.7635	0.95	0.68	1.33
Income						
(>$100,000)			(reference)			
$70,001-100,000	0.04	0.193	0.8432	1.04	0.71	1.52
$50,001-70,000	0.42	0.205	0.0422	1.52	1.01	2.26
<$50,000	0.51	0.216	0.0186	1.66	1.09	2.54
Age						
Continuous	0.00	0.007	0.8292	1.00	0.99	1.01
Recently covered						
(All others)			(reference)			
Enrolled in Last Year	0.09	0.243	0.7206	1.09	0.68	1.76
Coverage-specific premium						
Continuous	0.00	0.005	0.3471	1.00	1.00	1.01
Perceived unmet dental need						
(All others)			(reference)			
Has Unmet Need	-1.50	0.186	0.0000	0.22	0.15	0.32
Intercept	1.30	0.511	0.011	.	.	.

Sample size =2,249

Satisfaction with Dentist

Tables 3.11a and 3.11b show the results for satisfaction with dentist. For this dependent variable, two comparisons are made: "very satisfied versus dissatisfied" and "satisfied/neutral versus

dissatisfied." The initial five-response category was collapsed into three categories: very satisfied, satisfied/neutral, dissatisfied/very dissatisfied. Again, satisfied and neutral have been combined to identify a group that is neither dissatisfied nor overly satisfied. Once again, the significance level was set at $p < .0026$ using Bonferroni adjustment.

Overall, CAP enrollees were less satisfied with their dentist compared to FFS enrollees. For the first comparison (very satisfied versus dissatisfied), CAP enrollees were 94 percent less likely to be "very satisfied" versus "dissatisfied" with their dentist when compared to FFS enrollees. For the second comparison (satisfied/neutral versus dissatisfied), CAP enrollees were 71 percent less likely to be satisfied.

Those who reported having unmet dental need were less likely to be satisfied with their dentist. For the first comparison it was 85 percent and for the second comparison 71 percent less likely to be satisfied. None of the sociodemographic variables showed significant effect at the $p < .0026$ significance level.

Table 3.11a
Satisfaction with Dentist: Multinomial Logistic Regression.
Analysis for Dental Plan Users. Ratios of "Very Satisfied" Versus "Dissatisfied"

"Very Satisfied vs. Dissatisfied"	Parameter			Odds	95 % CI	
Variable / Category	Estimate	SE	p-value	Ratio	(lower)	(upper)
Type of plan						
(Fee-for-service)			(reference)			
CAP	-2.74	0.353	0.0000	0.06	0.03	0.13
Market						
(North Carolina)			(reference)			
California	0.18	0.444	0.6788	1.20	0.50	2.87
Michigan	0.66	0.456	0.1478	1.94	0.79	4.73
New Jersey	1.07	0.572	0.0621	2.91	0.95	8.93
Gender						
(Male)			(reference)			
Female	0.16	0.264	0.5361	1.18	0.70	1.98
Race						
(White)			(reference)			
Nonwhite	-0.34	0.256	0.1808	0.71	0.43	1.17
Income						
(>$100,000)			(reference)			
$70,001–100,000	-0.24	0.310	0.4344	0.78	0.43	1.44
$50,001–70,000	0.12	0.335	0.7100	1.13	0.59	2.18
<$50,000	0.10	0.354	0.7766	1.11	0.55	2.21
Age						
Continuous	0.03	0.012	0.0089	1.03	1.01	1.06
Out-of-pocket cost						
(No out-of-pocket cost)			(reference)			
$1–$50	0.09	0.304	0.7706	1.09	0.60	1.98
$51–$150	-0.44	0.352	0.2064	0.64	0.32	1.28
$151–$350	0.58	0.452	0.2033	1.78	0.73	4.31
$351–$3,000	-0.80	0.366	0.0283	0.45	0.22	0.92
Recently covered						
(All others)			(reference)			
Enrolled in last year	-0.18	0.382	0.6347	0.83	0.39	1.76
Coverage-specific premium						
Continuous	0.00	0.008	0.5899	1.00	0.98	1.01
Perceived unmet dental need						
(All others)			(reference)			
Reported unmet need	-1.91	0.305	0.0000	0.15	0.08	0.27
Intercept	2.69	0.899	0.0028	.	.	.

Sample size = 1,916

Table 3.11b
Satisfaction with Dentist: Multinomial Logistic Regression. Analysis for Dental Plan Users. Ratios of "Satisfied/Neutral" Versus "Dissatisfied"

"Satisfied/Neutral vs. Dissatisfied"	Parameter			Odds	95 % CI	
Variable / Category	Estimate	SE	p-value	Ratio	(lower)	(upper)
Type of plan						
(Fee-for-service)			(reference)			
CAP	-1.24	0.353	0.0004	0.29	0.14	0.58
Market						
(North Carolina)			(reference)			
California	-0.01	0.443	0.9758	0.99	0.41	2.35
Michigan	0.58	0.455	0.1990	1.79	0.74	4.38
New Jersey	1.01	0.571	0.0762	2.75	0.90	8.42
Gender						
(Male)			(reference)			
Female	-0.26	0.261	0.3156	0.77	0.46	1.28
Race						
(White)			(reference)			
Nonwhite	0.18	0.245	0.4693	1.19	0.74	1.93
Income						
(>$100,000)			(reference)			
$70,001–100,000	-0.20	0.305	0.5174	0.82	0.45	1.49
$50,001–70,000	0.30	0.329	0.3588	1.35	0.71	2.58
≤$50,000	0.35	0.348	0.3208	1.41	0.71	2.79
Age						
(Continuous)	0.01	0.012	0.3452	1.01	0.99	1.03
Out-of-pocket cost						
(No out-of-pocket cost)			(reference)			
$1–$50	0.23	0.297	0.4341	1.26	0.70	2.26
$51–$150	-0.36	0.346	0.3030	0.70	0.36	1.38
$151–$350	0.51	0.448	0.2517	1.67	0.69	4.02
$351–$3,000	-0.52	0.357	0.1454	0.59	0.30	1.20
Recently covered						
(All others)			(reference)			
Enrolled in last year	0.15	0.365	0.6839	1.16	0.57	2.37
Coverage-specific premium						
Continuous	0.00	0.008	0.5635	1.00	0.98	1.01
Perceived unmet dental need						
(All others)			(reference)			
Reported unmet need	-1.25	0.270	0.0000	0.29	0.17	0.49
Intercept	2.42	0.891	0.0065	.	.	.

Sample size = 1,916

Rating of Plan

The final multivariate analysis is for rating of plan. For this analysis, the three response categories: "average," "poor," and "very poor" were collapsed into one. Thus, this variable has three responses: "excellent," "very good," and "average/poor/very poor." The results are presented in Table 3.12a and Table 3.12b. The reference category for the dependent variable is "average/poor/very poor."

Instead of discussing each table separately, the overall significant effects are presented below. CAP enrollees were 50 percent less likely to rate the plan "excellent" and 34 percent less likely to rate their plan "very good" when compared to "average/poor/very poor" rating. One demographic variable showed significant difference at the $p < .0026$ level. Older enrollees were more likely to give higher ratings to their plan.

With respect to out-of-pocket cost, compared to nonusers plan users with either zero or $1–$50 out-of-pocket cost were more likely to give positive plan rating. Those with no out-of-pocket cost were almost three times more likely to rate their plan "excellent" compared to "average/poor/very poor." Enrollees with higher coverage-specific premiums were more likely to give positive plan rating in the "excellent" to "average/poor/very poor" comparison. As for perceived unmet dental need, enrollees with unmet need were less likely to give positive plan rating in either comparison. They were 85 percent less likely to rate the plan "excellent" and 68 percent less likely to rate it as "very good."

Table 3.12a
Overall Rating of Plan: Multinomial Logistic Regression.
Ratios of "Very Good" Versus "Average / Poor / Very Poor"

"Excellent vs. Average / Poor / Very Poor"	Parameter			Odds	95% CI	
Variable / Category	Estimate	SE	p-value	Ratio	(lower)	(upper)
Type of plan						
(Fee-for-service)			(reference)			
CAP	-0.69	0.158	0.0000	0.50	0.37	0.69
Market						
(North Carolina)			(reference)			
California	-0.13	0.213	0.5415	0.88	0.58	1.33
Michigan	-0.15	0.204	0.4766	0.86	0.58	1.29
New Jersey	-0.39	0.229	0.0896	0.68	0.43	1.06
Gender						
(Male)			(reference)			
Female	0.23	0.146	0.1175	1.26	0.94	1.67
Race/ethnicity						
(White)			(reference)			
Nonwhite	-0.03	0.165	0.8574	0.97	0.70	1.34
Income						
(>$100,000)			(reference)			
$70,001–100,000	-0.05	0.174	0.7805	0.95	0.68	1.34
$50,001–70,000	0.12	0.179	0.4917	1.13	0.80	1.61
≤$50,000	0.47	0.179	0.0090	1.60	1.12	2.27
Age						
(Continuous)	0.04	0.006	0.0000	1.04	1.03	1.05
Out-of-pocket cost						
(Nonusers)			(reference)			
No out-of-pocket cost	1.05	0.234	0.0000	2.87	1.81	4.54
$1–$50	0.87	0.232	0.0002	2.38	1.51	3.75
$51–$150	0.39	0.261	0.1361	1.48	0.88	2.46
$151–$350	-0.01	0.277	0.9661	0.99	0.57	1.70
$351–$3000	-0.32	0.290	0.2728	0.73	0.41	1.28
Recently covered						
(All others)			(reference)			
Enrolled in last year	-0.19	0.233	0.4222	0.83	0.53	1.31
Coverage-specific premium						
Continuous	0.01	0.004	0.0001	1.01	1.01	1.02
Perceived unmet dental need						
(All others)			(reference)			
Has Unmet Need	-1.88	0.358	0.0000	0.15	0.08	0.31
Intercept	-3.34	0.486	0.0000	.	.	.

Sample size = 2,250

Table 3.12b
Overall Rating of Plan: Multinomial Logistic Regression.
Ratios of "Excellent" Versus "Average / Poor / Very Poor"

"Very Good vs. Average / Poor / Very Poor"	Parameter			Odds	95% CI	
Variable / Category	Estimate	SE	p-value	Ratio	(lower)	(upper)
Type of plan						
(Fee-for-service)			(reference)			
CAP	-0.42	0.122	0.0007	0.66	0.52	0.84
Market						
(North Carolina)			(reference)			
California	-0.10	0.180	0.5601	0.90	0.63	1.28
Michigan	-0.05	0.174	0.7955	0.96	0.68	1.34
New Jersey	-0.08	0.194	0.6796	0.92	0.63	1.35
Gender						
(Male)			(reference)			
Female	0.25	0.116	0.0311	1.28	1.02	1.61
Race/ethnicity						
(White)			(reference)			
Nonwhite	0.01	0.125	0.9513	1.01	0.79	1.29
Income						
(>$100,000)			(reference)			
$70,001-100,000	0.05	0.139	0.6946	1.06	0.80	1.39
$50,001-70,000	0.27	0.142	0.0594	1.31	0.99	1.72
≤$50,000	0.33	0.148	0.0236	1.40	1.05	1.86
Age						
Continuous	0.02	0.005	0.0001	1.02	1.01	1.03
Out-of-pocket cost						
(Nonusers)			(reference)			
No out-of-pocket cost	0.58	0.177	0.0011	1.78	1.26	2.52
$1-$50	0.57	0.175	0.0012	1.76	1.25	2.49
$51-$150	0.16	0.199	0.4068	1.18	0.80	1.74
$151-$350	0.04	0.203	0.8428	1.04	0.70	1.55
$351-$3000	-0.22	0.209	0.3001	0.81	0.53	1.21
Recently covered						
(All others)			(reference)			
Enrolled in last year	-0.09	0.169	0.6001	0.92	0.66	1.27
Coverage-specific premium						
Continuous	0.01	0.003	0.0622	1.01	1.00	1.01
Perceived unmet dental need						
(All others)						
Has Unmet Need	-1.15	0.193	0.0000	0.32	0.22	0.46
Intercept	-1.22	0.375	0.0011	.	.	.

Sample size = 2,250

Chapter Four

SUMMARY

The specific purpose of the study was to examine the impact of differences in type of dental plan, premiums paid to dental plans, patient out-of-pocket costs, and the dental insurance market on patient behavior. In this study, patient behavior was measured by use of dental care, experience with dental plan, satisfaction with plan, satisfaction with dentist, and perceived oral health status.

Four dental markets were selected based on the level of HMO managed care penetration. These markets were California (19.8 percent), New Jersey (7.3 percent), Michigan (4.6 percent), and North Carolina (0.07 percent). Eight "Fortune 500" companies whose operations included at least one of the four markets agreed to participate. Participants were randomly selected from eligibility lists and a telephone interview that collected data on their experience with their plan during 1997 was conducted. The sample consisted of 2,340 respondents of whom 42.3 percent were enrolled in capitation plans (CAP) and 57.7 percent were enrolled in fee-for-service plans (FFS). The plan premiums ranged from $22.40 to $61.75.

Data analysis included both bivariate and multivariate analyses. For both sets of analyses, Bonferroni adjustments were used. Forty-six bivariate comparisons were made in this report. Hence, the significance level for bivariate analysis was set at .001 (.05/46). In multivariate analysis, on the other hand, where we examined the effects of 19 variables on five dependent variables, using Bonferroni adjustment the significance level was set a $p<.0026$ (.05/19).

The major findings from the multivariate analyses are outlined below.

Use:

- Women were more likely to use their plan than men.
- Nonwhites are less likely to use than whites.
- Those with family incomes less than $50,000 were less likely to use their plan than those whose income was over $100,000.

Oral health:

- Those enrolled in CAP plans were less likely to rate their oral health excellent versus fair/poor relative to those enrolled in FFS plans.
- The other three income categories (lower than $100,000) were less likely than those earning over $100,000 to report excellent oral health versus poor/fair oral health.

- Nonwhites were less likely to rate their oral health as very good or good oral health than fair/poor oral health.
- Plan enrollees with no out-of-pocket cost were more likely to report excellent oral health versus fair/poor when compared to nonusers. Similarly, plan enrollees with $1–$50 out-of-pocket cost were more likely to report excellent oral health versus fair/poor when compared to nonusers.

Satisfaction with plan:

- Those enrolled in CAP plans were less likely to be satisfied with their dental plan than those in FFS plans.
- Respondents with unmet needs were less likely to be satisfied with the plan.

Satisfaction with dentist:

- Those in CAP plans were less likely to be satisfied with the dentist than dissatisfied when compared to FFS enrollees.
- Those reporting an unmet need were less satisfied with the dentist.

Overall Rating of Plan:

- Those enrolled in CAP plans were less likely to give an excellent rating versus an average/poor/very poor rating when compared to FFS enrollees.
- Plan enrollees with unmet dental need were less likely to give an excellent rating than an average/poor/very poor rating.
- Older plan enrollees were more likely to give an excellent rating than an average/poor/very poor rating.
- Compared to nonusers, plan enrollees with no out-of-pocket cost were more likely to give an excellent overall rating of the plan. Similarly, plan enrollees with $1–$50 out-of-pocket were more likely to give an excellent rating.

Chapter Five

DISCUSSION

Throughout this report the findings highlight the significant impact of dental plan type on patient attitudes and perceptions. It is important to note, however, that in terms of having access to dental care, there were no significant differences between CAP and FFS plan enrollees, at the high levels of access reported. These enrollees used dental care regardless of the payment plan.

This report examines various indicators of patient perception and attitude. The first indicator was satisfaction with plan. After taking into account the possible effects of other relevant variables, CAP enrollees were less likely to be satisfied with their plan when compared to FFS enrollees.

The second indicator of patient perception was the overall rating of the plan. An overall rating provides a more encompassing measure of the effectiveness of the plan as perceived by the enrollee. Thus, in addition to the satisfaction rating, plan enrollees were also asked to rate the overall effectiveness of the plan. CAP enrollees were less likely to report excellent rating when compared to FFS enrollees.

Because type of plan restricts the choice of dentist, it is important to specifically examine the extent to which plan enrollees are satisfied with their choices of dentists. Satisfaction with the dentist included the extent to which the patient is satisfied with the types of services provided by the dentist, dentist's personality, his / her approach, whether he / she spends time with the patient, or whether the dentist provides any preventive treatment. This overall satisfaction rating measures the extent to which plan enrollees are satisfied with the type of care provided by the dentist. CAP enrollees were less likely to be satisfied with their dentist when compared to FFS enrollees.

Self-reported oral health status was the final measure. Self-reported oral health status measures patient's perception of his / her oral health. This is an important measure in that it is an outcome indicator of the enrollees' oral health. Findings showed that CAP enrollees were less likely to report excellent oral health status compared to FFS enrollees. Once again, CAP enrollees perceive themselves as worse off in terms of their oral health.

Even though CAP enrollees used dental services just as much as FFS enrollees, they (CAP enrollees) were less satisfied with their plan, gave lower plan rating, were less satisfied with their dentist, and perceived their oral health as fair/poor. These findings raise important policy issues. In terms of having access to dental care, there were no statistically significant differences

between CAP and FFS enrollees. But in terms of patients' perception toward the quality of care received, CAP enrollees are at a disadvantage. Whether these various indicators of patient perception and attitude accurately but indirectly measure quality of dental care will require more studies.

Cost of care is another major concern and one that often differentiates FFS and CAP plans. During this study, attempts were made to gather data on reimbursement to dental providers. Unfortunately we were unable to obtain this information from the companies. Instead, they provided information on premiums paid to dental plans. As such, coverage-specific premium was used in the multivariate analysis, and for sake of comparison dual-party premium was used in bivariate analysis. These measures are at best a proxy for the reimbursement of the dentist.

Results indicate no significant premium effect on patient behavior and attitude. In addition to coverage-specific premiums, respondents were asked to indicate out-of-pocket cost for dental services received in 1997. This variable was also included in the multivariate models and results illustrate a significant effect for overall rating of plan and self-reported oral health status. Plan users with no or very modest ($1–50) out-of-pocket cost had positive attitudes when compared to nonusers. Patient attitudes are affected by how much plan users spend out-of-pocket rather than how much a company spends on premiums.

Bivariate results indicate CAP patients had higher out-of-pocket cost when compared to FFS patients. Cost containment is the ultimate goal of capitation. Capitation attempts to control cost in health care and shifts financial risks from insurance companies to dentists (the providers). It seems that some of the financial burden is also being shifted to CAP patients.

The premium paid is highest for those who rated the plan as excellent and lowest for those who rated it average/poor. This same pattern repeated for quality of care, plan meeting enrollees' needs, and overall care. The relationship for each was linear so that for each decrease in premium there was a decrease in the plan rating. This result might imply that the premium is a proxy for quality.

The findings from this study raise important issues. According to this study, CAP plans have serious limitations. CAP patients have higher out-of-pocket costs, they are less satisfied with their plan and with their dentist, and they are more likely to report fair/poor oral health status. Quality and cost of dental care are both serious matters. This study focuses on only two aspects of what might be considered a three-legged stool — the plan and the enrollee. Missing from this is the dentist — the third leg of the stool. More research is needed to better understand the differences between CAP and FFS plans and how provider reimbursement methods affect the dentist's behavior. This study was unable to evaluate the compensation that dentists received

under the two types of plans and the nature of the CAP provider network, and these certainly warrant consideration as reasons for the differences that were found. Ultimately, the broad policy and public health issue is the impact these have on the oral health status of the patient.

In conclusion, three important findings have been made by this study. First, there is a general dissatisfaction of enrollees in capitated plans with almost anything to do with dental coverage. Second, there are strong positive relationships between perceptions of quality and enrollees' out-of-pocket costs. Three, there are negative relationships between satisfaction and out-of-pocket costs. The second and third items held true even when controlling for enrollment in FFS or CAP plans. The positive relationships found in this study between perceptions of quality and out-of-pocket costs replicates results for medical benefit plans, where, correctly or incorrectly, consumers view cost as a proxy for quality of care.

Appendix A

PREMIUM BY COMPANY, MARKET AND PLAN TYPE

Company #	Market	Plan Type	Plan Detail	Dual-Party Premium
1	CA	CAP		29.00
	CA	FFS-2		61.23
	MI	CAP		27.75
	MI	FFS-1		35.98
	MI	FFS-2		61.12
	NJ	CAP		31.46
	NJ	FFS-2		60.83
	NC	CAP		29.06
	NC	FFS		36.09
2	CA	FFS		46.97
	CA	CAP		30.45
3	MI	CAP	Staff	22.40
	MI	CAP	Non-staff	24.10
	MI	FFS		25.60
4	CA	CAP-1		43.25
	CA	CAP-2		30.25
	CA	FFS		61.75
5	CA	CAP		26.36
	MI	FFS	Hourly	44.74
	MI	FFS	Salaried	49.22
	MI	CAP	Salaried	38.01
	MI	CAP	Hourly	41.06
	MI	CAP	Salaried	48.60
	MI	CAP	Hourly	34.55
	NJ	FFS	Hourly	44.74
	NJ	FFS	Salaried	49.22
	NC	FFS	Salaried	49.22
6	CA	FFS-1		48.50
	MI	FFS-1		48.50
	MI	FFS-2		35.00
	NJ	FFS-1		48.50
	NJ	FFS-2		35.00
	NC	FFS-1		48.50
	NC	FFS-2		35.00
7	MI	FFS	Hourly	32.00
	MI	FFS	Salaried	48.00
8	CA	CAP		41.74
	CA	FFS		55.11
	MI	FFS		55.11
	NJ	CAP		41.74
	NJ	FFS		55.11
	NC	FFS		55.11

Appendix B

COMPANY, PLAN TYPE, AND MARKET

Table B.1 shows the premiums by company, plan, and market. Because in some companies a particular market may have had more than one plan within a plan type (for example up to four CAPs) the premium is in some instances shown as a range.

Table B.1
Premium or Premium Range by Company, Plan Type, and Market

Company	Plan Type	Market			
		California	Michigan	New Jersey	North Carolina
		$	$	$	$
1	CAP	29.00	27.75	31.46	29.06
	FFS	61.23	36.98–61.12	60.83	36.09
2	CAP	30.45	NA	NA	NA
	FFS	46.97	NA	NA	NA
3	CAP	NA	22.40–24.10	NA	NA
	FFS	NA	25.60	NA	NA
4	CAP	43.25	NA	NA	NA
	FFS	61.75	NA	NA	NA
5	CAP	26.36	34.55–48.60	NA	NA
	FFS	NA	44.74–49.22	44.74–49.22	49.22
6	CAP	NA	NA	NA	NA
	FFS	48.50	35.00–48.50	35.00–48.50	35.00–48.50
7	CAP	NA	NA	NA	NA
	FFS	NA	32.00–48.00	NA	NA
8	CAP	41.74	NA	41.7	NA
	FFS	55.11	55.11	55.11	55.11
Range	CAP	26.36–43.25	22.4–48.6	31.46–41.74	29.1
	FFS	46.97–61.75	25.60–61.12	35.00–60.83	35.00–55.11

Table B.2 shows the distribution by company, plan type, and market in both frequencies and the percentages of those interviewed.

Table B.2
Distribution by Company, Plan Type, and Market

Company	Plan Type	Market							
		CA		MI		NJ		NC	
		n	%	n	%	n	%	n	%
1	CAP	82	3.5	85	3.6	75	3.2	37	1.6
	FFS	101	4.3	83	3.5	76	3.2	68	2.9
2	CAP	76	3.2	NA		NA		NA	
	FFS	74	3.2	NA		NA		NA	
3	CAP	NA		151	6.5	NA		NA	
	FFS	NA		55	2.4	NA		NA	
4	CAP	173	7.4	NA		NA		NA	
	FFS	81	3.5	NA		NA		NA	
5	CAP	30	1.3	174	7.4	NA		NA	
	FFS	NA		97	4.1	129	5.5	77	3.3
6	CAP	NA		NA		NA		NA	
	FFS	46	2.0	51	2.2	41	1.8	51	2.2
7	CAP	NA		NA		NA		NA	
	FFS	NA		118	5.0	NA		NA	
8	CAP	67	2.9	NA		39	1.7	NA	
	FFS	57	2.4	50	2.1	45	1.9	51	2.2
TOTAL	CAP	428	18.3	410	17.5	114	4.9	37	1.6
	FFS	359	15.3	454	19.4	291	12.4	247	10.6
SAMPLE by MARKET		787	33.6	864	36.9	405	17.3	284	12.1
TOTAL SAMPLE		2,340							

NA = Not applicable (state did not have such a plan)

THE RAND PATIENT INTERVIEW SCHEDULE

Version 22

RAND
1700 MAIN STREET
SANTA MONICA CA 90401

March 26, 1998

American Dental Association
PATIENT INTERVIEW SCHEDULE
Version 22

I. TEAR SHEET

1. Patient's ID CODE: 01 (COMPANY CODE) ___ ___ ___ ___ ___

2. Patient's Name:

_____ _____
LAST NAME FIRST NAME

3. STATE: _____

4. Letter Sent _____ /_____ /_____

5. Letter/Card Received _____ /_____ /_____

6. Plan Name _____

7. Plan Type _____

8. Date Interviewed: _____ /_____ /_____
   Interviewer: _____

9. Date Checked: _____/_____/_____
   Interviewer: _____

10. Date Data Entered _____/_____/_____

_____/_____/_____

CALL RECORD AND FIELD CONTACT RECORD

Telephone Number: ( ) ID:

Contact Attempt	Date	Time of Call	Outcome Code	Interviewer
1				
2				
3				
4				
5				
6				
7				
8				
9				

DATE & TIME FOR CALLBACK: _____

NOTES

_____

_____

OUTCOME CODES

AM = answering machine
AP = made an appointment
BZ = busy signal
CB = call back
CI = completed interview
DS = disconnected
PI = partial interview
PP = phone problem (fax or modem)
NA = no answer
RF = refusal
WN = wrong number

O = other (describe) _____

_____

_____

TABLE OF CONTENTS

SCRIPT FOR TELEPHONE INTERVIEWS

PATIENT

Hi, I am *(NAME)* from UCLA. I am calling with regard to a Study we are conducting on *(NAME THE COMPANY's)* dental health plans. We recently sent you a letter concerning the Study. Did you receive the letter? Could I review the Study with you? [DO I NEED TO REVIEW THE STUDY WITH YOU?]

The Dental Benefit Plans Study is being carried out to study the experiences of patients and dentists in different benefit plans. It is being conducted by RAND, Santa Monica, California, a not-for-profit research organization, and the School of Dentistry, UCLA. Your participation will not be communicated to either your company and/or your union.

VOLUNTARY NATURE OF THE STUDY

You are one of approximately 2400 enrollees in dental plans who have been randomly selected to take part in this Study and your participation is very important to the validity of the results. However, you do not have to participate in this Study, and your decision whether or not to take part will not affect any services you receive from any health plan or dentist. If you decide to participate, you can refuse to answer a question, stop the interview, or discontinue participation in the Study at any time.

HOW YOU WERE SELECTED FOR THE STUDY

We selected you from a list provided by your company using a random process designed to allow every person under care in your dental plan some chance of being in the Study. Your participation will help to ensure adequate representation of people like you when the Study findings are published.

INFORMATION YOU WILL BE ASKED TO PROVIDE

The telephone interview will take about 20 minutes, during which you will be asked to provide the Study with information about yourself, your use of dental services, your type of insurance coverage, costs of your dental care, barriers to dental care, and your satisfaction with the dental care. We will also ask questions about your oral health. The Study will link your responses with information we obtain from your dentist.

PAYMENT

You will be paid $15 for the interview.

RISKS OF PARTICIPATION

We will not be asking you to take part in any experimental treatment or therapies. We will be asking questions about your dental care. Of course, you may refuse to answer any question or stop the interview at any time.

BENEFITS OF PARTICIPATION

There are no direct benefits to you by participating in the Study other than the payment of $15. The Study might benefit dental providers and patients, and companies in general by showing which dental plans afford better quality of care and satisfaction with care.

CONFIDENTIALITY OF INFORMATION

We will use the information you give us for research purposes only. We will protect the confidentiality of this information, and will not disclose your identity or information that identifies you to anyone outside of the research project, except as required by law. We will not identify you in any reports we write. We will destroy all information that identifies you at the end of the Study.

DO YOU HAVE ANY QUESTIONS ABOUT THE STUDY? [It will take about 20 minutes.]

COULD WE PROCEED WITH THE INTERVIEW?

IF NOW IS NOT A CONVENIENT TIME, IS THERE ANOTHER TIME YOU WOULD PREFER?

TIME:
DAY/DATE :
TELEPHONE : ( )

CARD 001 7-9/

1-6/ ID:

Please record start time here: ☐☐ : ☐☐ 10-
13/ HOUR MINUTE

1. DENTAL PLAN

1.1 Our records show that in 1997 you had dental insurance as an employee of **[NAME OF COMPANY]**. Is this correct?

1 ☐ Yes
2 ☐ No => Our records show you had dental insurance. Did you opt out?
IF YES => GO TO WAIVER QUESTIONNAIRE
9 ☐ Don't know => Our records show that you did have insurance.
Could we proceed on that basis? 14/

1.2 How long were you covered by this dental Plan?
1 ☐ 1 year => **SKIP ALL "PRIOR TO 1997" QUESTIONS**
2 ☐ 2 years
3 ☐ 3 years
4 ☐ 4 years
5 ☐ 5 or more years
9 ☐ **DON'T KNOW (DO NOT READ)** 15/

1.3 Were any of the following covered on your dental Plan? *(Circle all that apply)*
1 ☐ Spouse 16/
2 ☐ Children 17/
3 ☐ Other (*SPECIFY*) _____ 18/
4 ☐ None 19/

IF ANSWERED "2" CHILDREN, GO TO 1.4. ALL OTHERS => SKIP TO 1.5

1.4 If children, how many: _____ 20-21/

1.5 In addition to your dental plan, were you covered in 1997 by another dental Plan?
1 ☐ Yes
2 ☐ No => **SKIP TO 1.7** /22

ID:

1.6 Did you use this other dental Plan in 1997?

1 ☐ Yes
2 ☐ No
9 ☐ **DON'T KNOW (DO NOT READ)** 23/

THE FOLLOWING QUESTIONS ASK ONLY ABOUT YOUR PERSONAL EXPERIENCE with your Plan, and not that of other persons or plans.

NOTE: IF "1" (1 YEAR) IN 1.2, THEN DO NOT ASK ANY OF THE "PRIOR TO 1997" QUESTIONS

1.7 How easy has it been for you to get information from your Plan?

IN 1997	PRIOR TO 1997
1 ☐ Very hard	1 ☐ Very hard
2 ☐ Somewhat hard	2 ☐ Somewhat hard
3 ☐ Neither hard nor easy	3 ☐ Neither hard nor easy
4 ☐ Somewhat easy	4 ☐ Somewhat easy
5 ☐ Very easy	5 ☐ Very easy
8 ☐ **NA (DO NOT READ)**	8 ☐ **NA (DO NOT READ)** 24-25/

1.8 How hard or easy has it been for you to find a dentist in your Plan?

IN 1997	PRIOR TO 1997
1 ☐ Very hard	1 ☐ Very hard
2 ☐ Somewhat hard	2 ☐ Somewhat hard
3 ☐ Neither hard nor easy	3 ☐ Neither hard nor easy
4 ☐ Somewhat easy	4 ☐ Somewhat easy
5 ☐ Very easy	5 ☐ Very easy
8 ☐ **NA (DO NOT READ)**	8 ☐ **NA (DO NOT READ)** 26-27/

1.9 Thinking about your dental Plan, how would you rate the number of dentists you have to choose from?

IN 1997	PRIOR TO 1997
1 ☐ Excellent	1 ☐ Excellent
2 ☐ Very good	2 ☐ Very good
3 ☐ Good	3 ☐ Good
4 ☐ Fair	4 ☐ Fair
5 ☐ Poor	5 ☐ Poor
8 ☐ **NA (DO NOT READ)**	8 ☐ **NA (DO NOT READ)**
9 ☐ **DON'T KNOW (DO NOT READ)**	9 ☐ **DON'T KNOW (DO NOT READ)**

28-29/

ID:

1.10 Were they conveniently located?

IN 1997	PRIOR TO 1997
1 ☐ Yes	1 ☐ Yes
2 ☐ No	2 ☐ No

30-31/

1.11 Was your dentist your first choice?

IN 1997	PRIOR TO 1997
1 ☐ Yes	1 ☐ Yes
2 ☐ No	2 ☐ No
8 ☐ **NA (DO NOT READ)**	8 ☐ **NA (DO NOT READ)**

32-33/

HAVE YOU EXPERIENCED ANY OF THE FOLLOWING?

1.12 Delays in your dental care while you waited for approval by your dental Plan?

IN 1997	PRIOR TO 1997
1 ☐ Yes	1 ☐ Yes
2 ☐ No	2 ☐ No
8 ☐ **NA (DO NOT READ)**	8 ☐ **NA (DO NOT READ)**

34-35/

1.13 Not able to get care you and your dentist believed was necessary?

IN 1997	PRIOR TO 1997
1 ☐ Yes	1 ☐ Yes
2 ☐ No	2 ☐ No
8 ☐ **NA (DO NOT READ)**	8 ☐ **NA (DO NOT READ)**

36-37/

1.14 Not able to get a referral to a specialist you wanted to see?

IN 1997	PRIOR TO 1997
1 ☐ Yes	1 ☐ Yes
2 ☐ No	2 ☐ No
8 ☐ **NA (DO NOT READ)**	8 ☐ **NA (DO NOT READ)**

38-39/

1.15 Overall, how satisfied were you with the dental Plan?

IN 1997	PRIOR TO 1997
1 ☐ Very satisfied	1 ☐ Very satisfied
2 ☐ Satisfied	2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied	3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied	4 ☐ Dissatisfied
5 ☐ Very dissatisfied	5 ☐ Very dissatisfied
9 ☐ **DON'T KNOW (DO NOT READ)**	9 ☐ **DON'T KNOW (DO NOT READ)**

40-41/

ID:

IF ANY OF THE FOLLOWING APPLY, HOW SATISFIED WERE YOU WITH:

1.16 The amount of paperwork?

IN 1997	PRIOR TO 1997
1 ☐ Very satisfied	1 ☐ Very satisfied
2 ☐ Satisfied	2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied	3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied	4 ☐ Dissatisfied
5 ☐ Very dissatisfied	5 ☐ Very dissatisfied
8 ☐ **NA (DO NOT READ)**	8 ☐ **NA (DO NOT READ)** 42-43/

1.17 Did you ever call <u>your dental Plan</u>, not your dental office?

IN 1997	PRIOR TO 1997
1 ☐ Yes	1 ☐ Yes
2 ☐ No	2 ☐ No 44-45/

IF "YES" TO EITHER "1997", or "PRIOR TO 1997" , THEN CONTINUE
OTHERWISE => SKIP TO 1.19

1.18 Do you agree or disagree with the following statements about your most recent telephone call to your dental Plan: *(Circle one answer for each question)*

	AGREE	DIS-AGREE	(DO NOT READ) DON'T KNOW
a. I had trouble finding the number to call	1	2	9
b. I was able to reach someone quickly	1	2	9
c. The person I spoke with could answer my questions	1	2	9
d. I had to talk to more than two people before I was helped	1	2	9
e. I had trouble getting through to talk to someone who could help me	1	2	9
f. The person I spoke with was courteous	1	2	9

46-51/

1.19 Did you ever <u>personally</u> submit a claim to your dental Plan?

IN 1997	PRIOR TO 1997
1 ☐ Yes	1 ☐ Yes
2 ☐ No	2 ☐ No 52-53/

IF "YES" TO EITHER "1997" or "PRIOR TO TO 1997", THEN CONTINUE
OTHERWISE => SKIP TO 1.21

ID:

1.20 If you submitted your claim, how satisfied were you with the length of time it took to pay your claim?

IN 1997	PRIOR TO 1997
1 ☐ Very satisfied	1 ☐ Very satisfied
2 ☐ Satisfied	2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied	3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied	4 ☐ Dissatisfied
5 ☐ Very dissatisfied	5 ☐ Very dissatisfied
8 ☐ **NA (DO NOT READ)**	8 ☐ **NA (DO NOT READ)** 54-55/

1.21 Was there a time when you or your dentist needed to obtain pre-approval for your dental care?

IN 1997	PRIOR TO 1997
1 ☐ Yes	1 ☐ Yes
2 ☐ No	2 ☐ No 56-57/

IF "YES" TO EITHER "1997", or "PRIOR TO 1997" , THEN CONTINUE - OTHERWISE => SKIP TO 1.23

1.22 Do you agree or disagree with the following statements about <u>the most recent time</u> it was necessary to obtain pre-approval for dental care? *(Circle one answer for each question)*

	AGREE	DISAGREE	
a. The decision was made quickly	1	2	58/
b. I agreed with the decision	1	2	59/

1.23 Did you ever call or write to your dental Plan about a complaint?

IN 1997	PRIOR TO 1997
1 ☐ Yes	1 ☐ Yes
2 ☐ No	2 ☐ No 60-61/

IF "YES" TO EITHER "1997", or "PRIOR TO 1997" , THEN CONTINUE - OTHERWISE => SKIP TO 1.27

1.24 What was the nature of the complaint?

IN 1997 PRIOR TO 1997

_____ 62-63/

_____ 64-65/

ID:

1.25 Overall, how satisfied were you with the way your dental Plan handled your most recent complaint?

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 66/

1.26 How long did it take to resolve your complaint?

1 ☐ Same day
2 ☐ 1 week
3 ☐ 2 weeks
4 ☐ 3 weeks
5 ☐ 4 or more weeks
6 ☐ Not yet resolved 67/

1.27 Please indicate your satisfaction with how well your dental Plan covers the following services. *(Code an answer on each line)*

1 = satisfied
2 = neither satisfied nor dissatisfied
3 = dissatisfied
4 = **DON'T KNOW (DO NOT READ)**
8 = **NA (DO NOT READ**

a. Preventive care (including cleanings)	____	68/
b. Exams	____	69/
c. X-rays	____	70/
d. Fillings	____	71/
e. Crowns and bridges	____	72/
f. Full or partial dentures	____	73/
g. Gum treatment	____	74/
h. Root canal treatment	____	75/
i. Extractions	____	76/
j Orthodontic care (that is, braces)	____	77/
k. Out of area emergency care	____	78/
l. Overall, how satisfied are you with the benefits	____	79/

ID:

1.28 Have you ever <u>postponed</u> dental care because of the cost you would have had to pay?

IN 1997	PRIOR TO 1997	
1 ☐ Yes	1 ☐ Yes	
2 ☐ No	2 ☐ No	80-81/

ASK ONLY IF POSTPONED USE <u>IN 1997</u>

1.29 Was it because: *(Circle all that apply)*

IN 1997

1 ☐ The deductible was too high	82/
2 ☐ The co-payments or co-insurance were too high	83/
3 ☐ The maximum allowance was too low	84/
4 ☐ The service was not covered	85/

ASK ONLY IF POSTPONED USE <u>PRIOR TO 1997</u>

1.30 Was it because: *(Circle all that apply)*

PRIOR TO 1997

1 ☐ The deductible was too high	86/
2 ☐ The co-payments or co-insurance were too high	87/
3 ☐ The maximum allowance was too low	88/
4 ☐ The service was not covered	89/

1.31 Are you satisfied with the choices of dental Plans offered by your company?

IN 1997	PRIOR TO 1997	
1 ☐ Very satisfied	1 ☐ Very satisfied	
2 ☐ Satisfied	2 ☐ Satisfied	
3 ☐ Neither satisfied nor dissatisfied	3 ☐ Neither satisfied nor dissatisfied	
4 ☐ Dissatisfied	4 ☐ Dissatisfied	
5 ☐ Very dissatisfied	5 ☐ Very dissatisfied	90-91/

1.32 Were any of the following the reasons for choosing your dental Plan?
(Circle all that apply)

1 ☐ Did not require a choice	92/
2 ☐ The money you pay the dentist for treatment was less	93/
3 ☐ Better choice of dentists	94/
4 ☐ Relative ease of receiving dental care	95/
5 ☐ More comprehensive dental benefits	96/
6 ☐ The money deducted from your paycheck is less	97/
7 ☐ The reputation of the Plan (because you knew the name)	98/
8 ☐ Other (*SPECIFY*) _____	99/

ID:

1.33 Since you've been with this company, have you ever elected to change Plans?

1 ☐ Yes
2 ☐ No => **SKIP TO 1.35** 100/

1.34 **IF YES**, how many times? _____ 101-102/

1.35 If you have the opportunity, would you like to change your dental Plan to one of the other options?

1 ☐ Yes
2 ☐ No
3 ☐ There are no other options offered
9 ☐ **DON'T KNOW (DO NOT READ)** 103/

1.36 Did you change dentists:

IN 1997	PRIOR TO 1997	
1 ☐ Yes	1 ☐ Yes	
2 ☐ No	2 ☐ No	104-105/

IF "YES" TO "1997", THEN CONTINUE
OTHERWISE => SKIP TO 1.38

1.37 Why did you change dentists in 1997? *(Circle all that apply)*

1 ☐ The Plan required me to change 106/
2 ☐ Dissatisfied with former dentist 107/
3 ☐ Dentist left Plan 108/
4 ☐ Found a better dentist 109/
5 ☐ More conveniently located 110/
6 ☐ Some other reason (*SPECIFY*) _____ 111/

1.38 If a friend or family member was looking for a new dental Plan, would you recommend your Plan to them?

1 ☐ Definitely yes
2 ☐ Probably yes
3 ☐ **NOT SURE (DO NOT READ)**
4 ☐ Probably not
5 ☐ Definitely not 112/

ID:

1.39 Please rate your dental Plan overall as:

IN 1997	PRIOR TO 1997
1 ☐ Excellent	1 ☐ Excellent
2 ☐ Very good	2 ☐ Very good
3 ☐ Average	3 ☐ Average
4 ☐ Poor	4 ☐ Poor
5 ☐ Very poor	5 ☐ Very poor
9 ☐ **DON'T KNOW (DO NOT READ)**	9 ☐ **DON'T KNOW (DO NOT READ)**

113-114/

CARD 002 7-9/

1-6/ ID:

2. USE

THE FOLLOWING QUESTIONS ON USE REFER TO DENTAL CARE YOU RECEIVED IN 1997

2.1 Did you ever use the Plan in 1997?

1 ☐ Yes **=> SKIP TO 2.3**

2 ☐ No

10/

2.2 The following is a list of reasons why people do not use their dental Plan. Please tell me which, if any, of these reasons apply to you: *(Circle one answer for each question)*

	YES	NO
a. I had trouble finding a dentist in my area that would see me	1	2
b. The treatment I wanted was not covered by my dental Plan	1	2
c. I use my spouse/partner's dental plan	1	2
d. The dentist I wanted to see was not in my dental Plan.	1	2
e. I didn't like any of the dentists in my Plan.	1	2
f. I am afraid of dentists or dental treatment.	1	2
g. I didn't have transportation.	1	2
h. I wasn't able to get child care.	1	2
i. I couldn't get an appointment anywhere.	1	2
j. I didn't think it was important enough.	1	2
k. Even with the dental Plan, I couldn't afford the cost of care.	1	2
l. I couldn't get time off from work.	1	2
m. I did not need dental care.	1	2
n. I could not coordinate the benefits with another dental Plan	1	2
o. Some other reason (*SPECIFY*) _____	1	2

ALL RESPONSES => SKIP TO 2.20

11-25/

2.3 In 1997, how many visits did you, yourself, make to a dental office in your dental Plan?

_____

26-27/

ID:

2.4 During 1997, how much money did you, yourself, NOT YOUR PLAN, pay for your treatment? $_____ **IF DON'T KNOW,** was it: 28-31/

1 ☐ Less than $100
2 ☐ $ 100 - $ 199
3 ☐ $ 200 - $ 499
4 ☐ $ 500 - $ 999
5 ☐ $1,000 - $2,499
6 ☐ $2,500 or more 32/

2.5 During 1997, were you seen by the dentist for <u>emergency dental care</u>, such as pain or infection?

1 ☐ Yes
2 ☐ No **=> SKIP TO 2.8** 33/

2.6 If you had an emergency in 1997, how long did you have to wait to be seen?

1 ☐ Seen the same day
2 ☐ Seen the next day
3 ☐ 3-4 days
4 ☐ 5-7 days
5 ☐ More than 1 week
8 ☐ **NA (DO NOT READ)** 34/

2.7 Do you think this is a reasonable amount of time?

1 ☐ Yes
2 ☐ No 35/

2.8 During 1997, were you seen by the dentist for <u>non-emergency dental care</u>, such as a routine check-up, cleaning, or routine treatment?

1 ☐ Yes
2 ☐ No **=> SKIP TO 2.14** 36/

ID:

2.9 What did you have done? *(Circle all that apply)*

1 ☐ Exam/check-up 37/
2 ☐ X-rays 38/
3 ☐ Fillings 39/
4 ☐ Root canal 40/
5 ☐ Crown 41/
6 ☐ Extraction(s) 42/
7 ☐ Oral surgery, other than extraction (*SPECIFY*) _____ 43/
8 ☐ Gum treatments 44/
9 ☐ Cleaning 45/
10 ☐ Cosmetic dentistry 46/
11 ☐ Orthodontics (e.g., braces) 47/
12 ☐ Preventive (e.g., sealants, fluoride treatment) 48/
13 ☐ Other (e.g., TMJ treatment, adjust occlusion, adjust bite, teeth bleaching) 49/
(*SPECIFY*) _____

2.10 If you had to call for a <u>non-emergency appointment</u>, in 1997, how long did you have to wait to be seen?

1 ☐ Within a week
2 ☐ 2-3 weeks
3 ☐ 3-4 weeks
4 ☐ Greater than 1 month
5 ☐ Greater than 2 months
8 ☐ **NA** 50/

2.11 Do you think this is a reasonable amount of time?

1 ☐ Yes
2 ☐ No 51/

2.12 When you're on time for your appointment, how long do you usually wait before you're treated?

1 ☐ Less than 15 minutes
2 ☐ Between 15 and 30 minutes
3 ☐ More than 30 minutes and less than 1 hour
4 ☐ Over an hour 52/

2.13 Do you think this is a reasonable amount of time?

1 ☐ Yes
2 ☐ No 53/

ID:

2.14 In 1997, when you went for general dental care, did you see the same dentist?

1 ☐ Always
2 ☐ Most of the time
3 ☐ Some of the time
4 ☐ Rarely or never

54/

2.15 Did you have your teeth cleaned in 1997?

1 ☐ Yes
2 ☐ No **=> SKIP TO 2.19**

55/

2.16 The last time you had your teeth cleaned, was it done by:

1 ☐ A dentist
2 ☐ A dental hygienist
9 ☐ **DON'T KNOW (DO NOT READ)**

56/

2.17 How long did the cleaning take? _____ minutes

57-58/

2.18 How satisfied were you with the cleaning?

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied

59/

2.19 When you received dental care, did the dentist suggest optional treatments not covered by the Plan at an additional fee?

1 ☐ Never
2 ☐ Rarely
3 ☐ Sometimes
4 ☐ Often
9 ☐ **NOT SURE (DO NOT READ)**

60/

2.20 In 1997, was there a time when you needed dental treatment but did not get it?

1 ☐ Yes
2 ☐ No **=> SKIP TO 2.22**

61/

ID:

2.21 The following is a list of reasons why a person might not get the dental care he or she needs. Please tell me whether or not each is a reason you did not get the dental care you needed in 1997. *(Circle one answer for each question)*

	YES	NO
a. I had trouble finding a dentist in my area who would see me	1	2
b. The treatment I wanted was not covered by my dental Plan	1	2
c. The dentist I wanted to see was outside my dental Plan.	1	2
d. I didn't like any of the dentists in my Plan.	1	2
e. I'm afraid of dentists or dental treatment.	1	2
f. I didn't have transportation.	1	2
g. I wasn't able to get child care.	1	2
h. I couldn't get an appointment anywhere.	1	2
i. I didn't think it was important enough.	1	2
j. Even with the dental Plan, I couldn't afford the cost of care.	1	2
k. I couldn't get time off from work.	1	2
l. Some other reason (*SPECIFY*) _____	1	2

62-73/

NOW WE WOULD LIKE TO ASK SOME QUESTIONS ABOUT DENTAL SPECIALTY CARE, SUCH AS A PERIODONTIST, ORTHODONTIST, ORAL SURGEON, etc.

2.22 In 1997, did you see a dental specialist covered by your Plan?

1 ☐ Yes
2 ☐ No => **SKIP TO 2.27** 74/

2.23 What kind of specialist was he or she? (*Check all that apply*)

1 ☐ Oral surgeon 75/
2 ☐ Periodontist (a gum specialist) 76/
3 ☐ Endodontist (a root canal specialist) 77/
4 ☐ Orthodontist (a specialist who does braces, etc) 78/
5 ☐ Other (*SPECIFY*) _____ 79/

2.24 Did you, or the dentist, or the Plan choose the specialist?

1 ☐ I choose
2 ☐ My dentist chose
3 ☐ The Plan chose
4 ☐ I chose in consultation with the dentist 80/

ID:

2.25 How satisfied were you with the ease of getting a referral to a specialist?

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 81/

2.26 How satisfied were you with the quality of specialist(s) you were referred to?

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 82/

2.27 In 1997, was there a time when you felt you needed a specialist but did not get one?

1 ☐ Yes
2 ☐ No **=> SKIP TO 2.29** 83/

2.28 Why did you not get the specialty care you felt you needed? *(Check all that apply)*

1 ☐ Referral was not approved 84/
2 ☐ Specialty care was not covered 85/
3 ☐ Too costly 86/
4 ☐ Was not referred by the dentist 87/
5 ☐ Could not get an appointment 88/
6 ☐ Specialist not conveniently located 89/
7 ☐ Other (*SPECIFY*) _____ 90/

2.29 During 1997, have you ever had treatment from a general dentist <u>not</u> in the Plan?

FROM A GENERALIST?	FROM A SPECIALIST?
1 ☐ Yes	1 ☐ Yes
2 ☐ No	2 ☐ No

91-92/

IF "YES" TO EITHER "GENERALIST" or "SPECIALIST", CONTINUE
OTHERWISE => SKIP TO 3.1

ID:

2.30 Why was this? (*Circle all that apply)*

1 ☐ I wanted to continue receiving treatment from my former dentist 93/
2 ☐ The dentist was conveniently located 94/
3 ☐ I had a bad experience with a network dentist 95/
4 ☐ I could not get a referral to the specialist I wanted 96/
5 ☐ I did not realize the dentist was not part of my health plan network 97/
6 ☐ I was out of town and needed emergency care 98/
7 ☐ I wanted better quality of care 99/
8 ☐ I had dental coverage under a different Plan from my spouse/partner 100/
9 ☐ Specialty care is not covered by the Plan 101/
10 ☐ Other (*SPECIFY*)_____

_____ 102/

CARD 003 7-9/

1-6/ ID:

3. PROVIDER

The following questions refer to the GENERAL DENTIST you currently see, or, most recently saw, under the Plan.

3.1 My dentist listens to what I say.

1 ☐ Strongly agree
2 ☐ Agree
3 ☐ **NOT SURE (DO NOT READ)**
4 ☐ Disagree
5 ☐ Strongly disagree 10/

3.2 My dentist explains the treatment I need in such a way that I know what he or she means.

1 ☐ Strongly agree
2 ☐ Agree
3 ☐ **NOT SURE (DO NOT READ)**
4 ☐ Disagree
5 ☐ Strongly disagree 11/

3.3 The ease of making appointments for dental care by phone.

1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Poor 12/

3.4 The length of time you wait between appointments, when you have a series of appointments.

1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Poor
8 ☐ **NA (DO NOT READ)** 13/

ID:

3.5 The thoroughness of the examination.

1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Poor 14/

3.6 The quality of care you receive.

1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Poor
9 ☐ **DON'T KNOW (DO NOT READ)** 15/

3.7 How well your care meets your needs.

1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Poor 16/

3.8 The overall care you receive.

1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Poor 17/

I want to ask you some questions about your satisfaction with the care you received in 1997. If you did not receive care in 1997, please answer the questions for your most recent care in the Plan. Thinking about your dental care, how satisfied are you with the following:

3.9 Your dentist.

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 18/

ID:

3.10 The office and equipment cleanliness.

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 19/

3.11 The location of the dentist's office.

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 20/

3.12 The availability of dental appointments.

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 21/

3.13 The length of time the dentist spent with you.

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 22/

3.14 The dentist's skills in treating your dental problems.

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied
9 ☐ **DON'T KNOW (DO NOT READ)** 23/

ID:

3.15 The attention the dentist paid to what you had to say.

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 24/

3.16 Information you received about how to keep your teeth and gums healthy.

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 25/

3.17 The explanation of dental procedures and tests.

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 26/

3.18 The reminders and encouragement to make and keep follow-up appointments.

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 27/

3.19 The respect your dentist shows you.

1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Neither satisfied nor dissatisfied
4 ☐ Dissatisfied
5 ☐ Very dissatisfied 28/

ID:

4. ORAL HEALTH STATUS

4.1 In general, would you say your overall general health is:

1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Somewhat poor
6 ☐ Very poor 29/

4.2 In general, would you say your overall dental health is:

1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Somewhat poor
6 ☐ Very poor 30/

4.3 Compared to when you first joined the Plan, would you say your overall dental health is:

1 ☐ Much better
2 ☐ Somewhat better
3 ☐ About the same
4 ☐ Somewhat worse
5 ☐ Much worse
9 ☐ **DON'T KNOW (DO NOT READ)** 31/

4.4 How much of your overall dental health can be attributed to the care you received through your dental Plan?

1 ☐ All
2 ☐ Most
3 ☐ Some
4 ☐ None
5 ☐ No change
9 ☐ **DON'T KNOW (DO NOT READ)** 32/

ID:

4.5 In the past three months, how often did you use medication to relieve pain or discomfort from around your mouth?

1 ☐ Always
2 ☐ Often
3 ☐ Sometimes
4 ☐ Seldom
5 ☐ Never 33/

4.6 Not counting wisdom teeth or teeth lost for orthodontic reasons (that is, to make more space), do you have any missing teeth that have not been replaced?

1 ☐ Yes
2 ☐ No **=> SKIP TO 4.8** 34/

4.7 How many?

1 ☐ 1 or 2
2 ☐ 3-6
3 ☐ 7-12
4 ☐ More than 12, but not all
5 ☐ All 35/

4.8 How many untreated decayed teeth or cavities do you think you have presently?

1 ☐ None
2 ☐ 1 or 2
3 ☐ 3 to 5
4 ☐ 6 or more
9 ☐ **DON'T KNOW (DO NOT READ)** 36/

4.9 How often do you brush your teeth?

1 ☐ 2 or more times a day
2 ☐ 1 time a day
3 ☐ Less than once a day 37/

4.10 How often do you use dental floss on your teeth? Would you say:

1 ☐ Daily
2 ☐ At least twice a week
3 ☐ Once a week
4 ☐ Less than once a week
5 ☐ Never 38/

ID:

4.11 Dental health is of great value to me.

1 ☐ Strongly agree
2 ☐ Somewhat agree
3 ☐ **NOT SURE (DO NOT READ)**
4 ☐ Somewhat disagree
5 ☐ Strongly disagree

39/

DEMOGRAPHICS

5.1 Are you covered by a medical Plan?

1 ☐ Yes
2 ☐ No **=> SKIP TO 5.3**

40/

5.2 What kind of medical insurance is this?

1 ☐ Managed care (such as an HMO)
2 ☐ Non-managed care (e.g., fee for service, or indemnity)
3 ☐ PPO (which is a Preferred Provider Organization)
9 ☐ **DON'T KNOW (DO NOT READ)**

41/

5.3 Do you have a health care savings account, also known as a MSA, or a flexible spending account. This is a pre-taxed Plan set up with your employer where you can make contributions which can be used during the year for medical and dental.

1 ☐ Yes
2 ☐ No

42/

5.4 What is your job title in your company?

_____ 43-62/

5.5 What is your gender?

1 ☐ Male
2 ☐ Female

63/

ID:

5.6 Which of the following describes your race or ethnic background?

1 ☐ White/Caucasian
2 ☐ African American/Black
3 ☐ Asian/Pacific Islander
4 ☐ Hispanic origin (any race)
5 ☐ Native American/Indian/Alaskan Native
6 ☐ Other (*DESCRIBE*) _____ 64/

5.7 What is your date of birth? _____/ _____/ _____ 65-70/
MONTH DATE YEAR

5.8 What is the highest level of education you've completed?

1 ☐ Some high school
2 ☐ High school graduate
3 ☐ Some college or technical school training
4 ☐ College graduate
5 ☐ Postgraduate degree 71/

5.9 Are you married?

1 ☐ Yes
2 ☐ No 72/

5.10 In the last year, in which of these ranges was your family income?

1 ☐ Less than $ 10,000
2 ☐ $ 10,000 - $ 20,000
3 ☐ $ 21,000 - $ 30,000
4 ☐ $ 31,000 - $ 50,000
5 ☐ $ 51,000 - $ 70,000
6 ☐ $ 71,000 - $100,000
7 ☐ Greater than $100,000 73/

ID:

5.11 As part of the Study we also wish to interview some dentists to see how satisfied they are with the Plan. All such information will be treated with the strictest confidentiality. Nothing you have told us in this interview will be shared with your dentist, including your name.

Would you give us permission to contact your dentist to request an interview?
(PROBE: re: services, use and treatment)

1 ☐ Yes
2 ☐ No 74/

5.12 What is the name of your dentist?

_____ 75-94/

9 ☐ Refused 95/

5.13 Do you know his or her phone number?

1 ☐ Yes
2 ☐ No 96/

( ) _____ - _____ 97-99/

Address: _____

_____

_____

NOTE: TRY TO GET AT LEAST THE CITY AND STATE OF DENTIST

5.14 For some patients, we wish to review the care provided under the Plan.
To do this, we would require copies of patient dental records.
Would you be willing to have your dental records reviewed as part of this Study?

1 ☐ Yes
2 ☐ No 100/

IF YES, you may receive from us a written request that allows us to obtain a copy of your dental records from your dentist.

ID:

We need to verify your address in order to mail you the $15.

5.15 Address: _____

_____

_____

And, in order to pay you, we need your social security number.

_____ - _____ - _____

5.16 Is there anything else you would like to tell us about your dental Plan or the dental care you receive under your dental Plan?

_____

_____

_____

_____

_____

_____

101-102/

NOTE FOR INTERVIEWER:

Write in telephone number from the CALL RECORD SHEET

( ) _____ - _____ 103-105/

THANK YOU FOR YOUR TIME

Please record end time here: ☐☐:☐☐
HOUR MINUTE

106-109/

END OF INTERVIEW

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